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Presentation

Lori Koch  
*Director of Investor Relations*

Good morning, and welcome back. I’m Lori Koch, leader of Investor Relations for the new DuPont. It’s great to have you here with us for the initial unveiling of our new company. We’re making this call available to investors and media via videocast, and all our materials are posted on the Investor Relations section of DowDuPont's website.

We have a great agenda planned for you today and are really excited to share our new vision for the new DowDuPont with you. We’ll open this morning hearing from Ed Breen, Chairman-elect; Marc Doyle, CEO-elect; and Jeanmarie Desmond, CFO-elect. Following a joint Q&A session with them, you’ll hear from our 5 business presidents. We'll then wrap the morning with a final Q&A session with our business leaders, that Marc will join as well.

As part of today, we will comment on the achieved and future results for DuPont based on the results and estimates for the segments that comprise the Specialty Products division of DowDuPont, and were shared as part of DowDuPont's third quarter earnings presentation. Since the intended business separations have not been completed, all of these comments, even those regarding forward-looking statements, are forward-looking statements. Because these statements are based on current assumptions that involve risk and uncertainty, our actual performance and results after the intended business separations may differ materially. Please read the cautionary language in our presentation materials and see the discussion of risk factors in the materials filed by DuPont on the SEC website.

Unless otherwise specified, all historical financial measures presented today are on a pro forma basis, and all financials, where applicable, exclude significant items.

We’ll also refer to non-GAAP measures. A reconciliation to the most directly comparable financial measure and other associated disclosures are contained in the presentation material.

I'd like to highlight a change you’re going to see in your materials with respect to non-op pension. With the decision being made to move the DuPont U.S. pension into Corteva, we are presenting today, we have not removed it -- we have removed this impact. This change will not be made official until after separation, but we wanted to be transparent and show you the underlying results.

So with that, we really appreciate your attendance today, and let me now turn it over to Ed.

Edward D. Breen  
*CEO & Director*

Great. It’s great to be back here again for the second day. I hope you enjoyed yesterday. I thought there was a lot of great info that we shared with all of you yesterday and I know way more than we ever have in the past, as I had mentioned we would do. So thank you, Lori, for the introduction, and good morning again.

We’re going to talk about the new DuPont today. And as I said yesterday, this truly is a new DuPont, and I think you'll see that as we go through the next few hours here. This company is being run very, very differently than it was being run 3 or 4 years ago. And I think we've made some pretty tremendous improvement in our results, and we’ll be sharing that with you today. But as always, a lot of room for additional improvement here as we move forward. And I really feel like you'll see today, we have all the ingredients in place in the company to really excel as we move forward here.

The most important thing to me, though, is the leadership of the company. We have assembled a great Board of Directors. I hope you've taken the time to look at that. I know last night, some of you actually mentioned that to me. We're not finished yet. We're going to be adding a couple more board members that we're actively recruiting right now. But we've got a great, diverse slate of talented people joining this board. By the way, along, as you saw yesterday, the Dow board and the Corteva board.
And just as you'll hear us talk today, one thing I would keep in mind, everything we're talking about we've already reviewed over the past year with the new board of DuPont. So our 3-year strategic plans have been reviewed and endorsed. So we are very much going to come out of the gate here knowing exactly what we want to do, and again, fully aligned.

The other part, obviously, about leadership and management of the company is I'm really happy that -- and excited that we anointed Marc Doyle, who you'll see next as the CEO-elect, but soon to be CEO of the company. He is just a great talent. We've been working together now for 3 years, and Marc is strategic. Marc knows these businesses inside and out, and he has executed on every single thing that we were planning on doing and did it very flawlessly, as you can see by the results of the company. So really excited about that.

And let me just mention also, with Lori here, Marc, Jeanmarie as our CFO, and you're going to be seeing our 5 presidents present today, we've all been together for 3 years. We've been working very much as a team. I think we've delivered every single quarter, quarter in and quarter out, and we're a pretty fine-tuned machine at this point in time. Always room for improvement, I understand, but clearly, we know what we're doing as a team together. And I want you all to know, I'm personally excited and very energized to be a part of the new DuPont here and help out with the team. It's really exciting to be here and be a part of that.

Now throughout today, you're going to hear us talk a lot about the levers that we're working on to create shareholder value. And the way we've been managing the company, it's really what I consider all the key levers from the top of the P&L right down to the bottom of the P&L. And we have focused programs on all of these key levers, and as a management team, we track them and we track the progress we're making against those.

And let me just list a few, a handful of them, that I think are really important and you'll hear more in these themes today. You're going to hear a lot about focused customer-led innovation. It's a really a key part of the machine of DuPont. And one of the beauties of DuPont, one of the things I loved when I came to the company, I didn't realize and appreciate before I was there, is the strength of the relationships with the customers and the application engineering capability of this company. I would put it up against any scientific company in the world. And it really is something that sets us apart and I think makes us a real good specialty company.

Along with that innovation, though, you've heard me say many times, there are no large, risky projects going on in this company. There are no moonshots. We have very consistent, $10 million, $15 million, $20 million R&D programs in the company, and we track them very, very closely.

Secondly, though, cost is one thing, and tracking that, but we have great growth initiatives in the company. Remember, we're tracking about $500 million of growth initiatives in this company because of the synergy of putting all these businesses together that weren't together before. So again, you'll hear a lot about that today, but that's a lot of our progress we'll make the next few years.

We're driving up the percentage of sales that are new products in the company that have been introduced over the last 5 years. Very important metric for us. I think the way we're running this R&D machine, we can get there. It's a stretch to where we want to get to, Marc will talk more about this, but it's a goal that we set for ourselves and we will be doing that.

We have a big focus on pricing going on in the company. We have a big focus on factory productivity and reliability going on in the company. A huge focus on procurement. By the way, I give us an A+ on procurement, so that's one area I'm actually not concerned, but I still like to track it all the time anyway. And I'd say the biggest area is CapEx, as you heard from Dow yesterday. We're running the machine very, very differently. Our CapEx is very slanted towards growth and high returns. Again, no big risky projects going on in the company. And Jeanmarie will talk about working capital. There's a lot of room for improvement in working capital in the company, and we're on that with a bunch of programs.

The biggest thing, though, we accomplished, I think, right out of the chute at DuPont that's setting us very -- up very well when you look through the P&L, was we've truly benchmarked, again, every business,
corporate function. And I think when we get to spin, we will benchmark best-in-class cost structure of any multi-industry company that you ever would want to track us against. And we're very, very proud of that, and we will continue to maintain that over the years as we move forward.

So we're on track. We've got all these programs going, and you'll continue to see the benefits of these as we move forward.

So moving to Slide 3. I got to tell you, my whole career of being a CEO, which I hate to admit, is over 20 years now, I've actually never been this impressed with a portfolio before. I look at it all the time, I'm like, "Oh, my gosh. This is incredible, what we have." With one caveat, there's about 10% of the portfolio that we want to clean up, and we're in the process of doing that. We're going to redeploy that capital as we move forward.

We happen to have a lot of transformational trends that our businesses are tracking, a lot of great secular growth areas that our R&D is going to. And I think that's important because you're going to see that's why we feel we can continue to constantly outpace global GDP. We just happen to be in a lot of the right markets where we see great growth over the next 5, 10 years. So, very, very important.

And one of the things you'll see more from the team also, when you look at this portfolio, this is not the old DuPont. This is a very different portfolio, as we've brought in both businesses from Dow, from Dow Corning and very key businesses, actually, from FMC on the Nutrition & Health side. So it's a very different mix, but they're all very synergistic with each other as we've put these together.

So again, moving to the far side of the chart there. You'll see that 95% of our sales hold a market-leading position. That is pretty incredible, and that gives us a lot of leverage and a lot of pricing leverage as we move forward. We already benchmark, pretty much to the top class on EBITDA margins. By the way, we have room to still grow our EBITDA margins, but we already track very well there. Remember, we still have more costs coming out of the system with the cost synergy program, and we're not finished that. So again, we should have a little bit of a good headroom here as we move forward. And as I said, we will consistently outpace GDP in the business. And one of the other things I love about the portfolio, it's geographically diverse. We are in hundreds of different end markets, and there is no one customer that represents any big part of the sales of the company. So, very, very diverse customer base that we sell to.

Moving to Slide 4. This is kind of how we look at creating the shareholder value. And again, this has to do with a lot of those levers that I talked about. But let me touch on them really quickly here and just give you a couple of numbers and thoughts on it.

Innovation-led growth. Again, we have an intimate relationship with customers. Application engineering, I think, is world-class. And we're targeting that our sales of new products in the last 5 years will increase up to 30%. We're now in the mid-20s. That's a big task. We feel we can get there in the next few years, and that's the goal and you ought to track us against that. And remember, there's no central R&D in the company anymore. No big projects, very safe projects we're working on from an innovation standpoint. Very closely tied in with our customers.

On the active portfolio management, as I said, we're going to get rid of about 10% of the portfolio. It's lower returns. It's slower growth. It's not in the secular areas we think are really taking off. Marc will show you that. We're already in the throes of doing some of that. We're making tremendous progress, but we plan on getting that done as quickly as we can and redeploying that capital into other areas.

The operating model. I already mentioned this, but let me just touch on one thing. Our corporate costs will be less than 1% of the sales when we come out as a new public company. I think that benchmark's pretty world-class. And I mentioned one of these other key levers, and I mention this under operating model, because it's something you want to really keep watching us on. This factory reliability and productivity program that we have, Marc has literally every -- with every business president, we are tracking a program with action items at all our facilities to improve. If I gave us a report card grade on this topic, I would give us a C. We should be an A+. So we have hundreds of millions of dollars sitting here that we need to wring out of the machine that is above the cost synergies that we're working on. And when you hear Rose talk today in the Safety & Construction business, she's actually now, in her margins, starting
to see, actually, the results, and her improved results are actually coming from this factor reliability and productivity initiative that we have going on in the company.

And on organizational alignment and performance, a couple of things I just want to mention here. We did away with all the matrix organization in the company. We don't have an operations matrix anymore. We don't have a separate global matrix anymore. And it's really changed the clock speed of this company. We just feel much more entrepreneurial. The pace of decision-making has picked up in the company. And actually, all the people presenting today are where the accountability is in the company. It's the 5 presidents, it's Jean, it's Marc and me. Everybody reports under that structure, there's no other structure. We know who's accountable to every P&L. Every factory is under the proper president that they run, and that is a massive change from the way the company used to run. And one metric is, and I think you heard yesterday from Dow, we're going to add into our compensation system, is we're going to add ROIC. By the way, it's well overdue that we put it in there. We're going to institute that with the board at the time of the spin of the companies, because we have to have our balance sheets in place and all that, and ROIC will become a part of the metric that we use in our paying compensation system for the company.

On balance -- so let's just move to the next chart. I think that's enough on that. So let me show you the results of the last 3 years. By the way, this is the past, so in a way, who cares about the past, but I think it shows you the momentum we have in the company, and we know how to drive the results by pulling on all these levers. You can see that we have consistently had about 5% organic growth. We've actually been running, pacing a little above 5% revenue growth. So clearly, again, outpacing the global GDP, and again, consistent over a 3-year period, quarter in and quarter out. 240 basis point improvement in our EBITDA margins, and again, lots of programs in place to drive that as we move forward. Free cash flow conversion. We are committing that we'll be north of 90%. I think any great multi-industry company should be there. By the way, we've actually paced the last 3 years pretty much around 100%. So I feel good about that. And we are driving significant improvement in ROIC. I won't get into all the numbers, because I want Jeanmarie to explain it to you. We're going to show it to you a couple of ways so we can be extremely transparent with you. But our incremental ROIC is very, very significant, and we've had a massive improvement the last 3 years. But I will tell you, and this is one you should all track us very closely against, we do not benchmark best-in-class yet on ROIC, and it's one of the ones we're really focused on and we're going to continue to drive up as we move forward.

So here we are -- this is the benchmark against what I think is the best-in-class multi-industry companies. By the way, you can all add other companies. I've had Danaher on this chart because I love their performance. You could put on there whoever you want. But I think year in, year out, consistently, these are 3 of the great multi-industry companies. And you can see we track very well on organic growth, adjusted operating EBITDA margins, adjusted operating EBITDA growth and the leverage that we're getting in the business through the P&L. So again, I think very good. Again, room for improvement in all of these. And I don't want to forget to say to you again, we're tracking ROIC and free cash flow conversion. Our free cash flow conversion is already world-class. Benchmark's obviously great. Lots of room for improvement still on the ROIC side.

So I hope you see today we have a great team. I'm excited that you'll get to meet the presidents today. I will tell you, this is a team that's very transparent with each other. We're very open with each other. Execution and speed, again, I think is incredible. And one of the things I love is we are very close, and we actually have a lot of fun. We've learned how to win. We like the feeling of winning, so we're going to continue to keep winning. And we're going to create a lot of shareholder value for you, our shareholders.

So thank you much, and I'll be back up for Q&A also. So with that, let me bring up CEO-elect, Marc Doyle.

Marc C. Doyle
Chief Operating Officer of Specialty Products Division

Thanks, Ed. Well, thanks, Ed, thanks for the introduction. We do have a great team, and I'm happy to be part of the leadership of this company.

I've got to say, here we are at Investor Day, and I'm following Ed Breen, who's done, what, maybe 100 of these. Who's counting? So no pressure, right? But seriously, those of you that don't know me, Marc
Doyle. I’m the CEO-elect of the DuPont company. I’ve been with the company 23 years, and I can tell you, honestly, I’ve never seen the level of enthusiasm both inside and outside the company that exists today. As Ed said, we’ve been delivering some strong results, and I’m very excited about getting us to spin to start the new era of DuPont next year in June.

Let me start on Slide 8. And I think you’ll all agree, this new DuPont is just a great portfolio of businesses. We’re a well-diversified company. We’re unifying the best of the best in a thoughtful, compelling structure that provides a strong foundation for future growth. Each of these businesses are similar in that they benefit from strong customer relationships, market-leading positions, and our innovation culture is built on differentiated science, technology and application development and our customers really depend on our expertise. As shown in the chart here, we’ll have 4 reporting segments, and each of the segments are aligned with key market verticals. We’ll have our Nutrition & Biosciences segment, our Electronics & Imaging segment, our Safety & Construction segment and our Transportation & Advanced Polymers segment. And these operating segments are positioned to capitalize on high-growth, high-return opportunities, really in transforming markets.

The heritage businesses that we brought together, shown on the left side of the chart, DuPont, Dow, Dow Corning and FMC, the combinations here really gave us a broader portfolio in all of these markets, which gives us better tailored solutions to meet customer needs. We’re actively leveraging the best practices from each of these legacy organizations and doing that to form a company that’s truly best-in-class. And I got to say, and Ed said it, too, this is really a new DuPont. This isn't the old DuPont. This new DuPont is truly taking the best from each company to create a high-performance culture of customer-focused innovation.

So let’s go to Slide 9. We have high confidence in the growth runway for all 4 of these segments. Each of them excel at developing innovative new products and finding applications -- new applications for our existing products. And I’ve got to say, never before have our innovation capabilities been so closely aligned with our customer needs. And together, we're finding new ways to create value.

And so along these lines, on Slide 9, you can see a number of key market and technology trends that are creating significant growth across the company. And I’m going to spend a little bit of time on this, because it's this exposure to attractive, high-growth market trends that really differentiates the new DuPont.

So let me start by speaking a little bit to the left side, the market drivers. Connectivity, mobility, healthy living, worker safety, sustainable development. These are big spaces where we have strong competitive advantages, and we're closely aligned with customer needs.

Starting with connectivity and mobility. These are important trends to all of our industrial specialty businesses. And by industrial specialty businesses, I’m talking about the Electronics & Imaging segment, Safety & Construction segment, Transportation & Advanced Polymers.

The electronics industry is becoming a bigger part of all of our lives. And electronics are transforming entire industries, from electrification of the automobile to wearable electronics in our clothing to smart surfaces with embedded sensors and displays and building and construction. Our position as the leading supplier of Electronic Materials in the world gives us a great opportunity, with the strong access we also have to these other industrial markets, to help customers to be positioned to make these changes happen in their products. Our own customers are trying to create innovative, new, smart products, connected products. And this trend that's happening is unstoppable, and we're truly at the leading edge here.

Moving into healthy living and worker safety. These are both key market trends that are growing in importance because of population growth, because of greater affluence, because of living standards in emerging regions. And with the combined heritage organizations and a richer portfolio, new tools in our toolkit now, like excipients, like silicone materials, we’re better positioned than we’ve even been to provide customers new innovations in these areas.

So just as an example, consumers want healthier food. They want food that has less sugar, less additives. They want clean labels. Our innovation with specialty food ingredients, with enzymes, with probiotics, gives us the ability to deliver these health benefits that consumers want.
And then finally, talking a little bit about sustainable development. This is another key market driver for us, a fantastic growth lever. Our portfolio is full of products that support the United Nations 2030 Sustainable Development Goals. If you look at areas like energy efficiency and renewable energy; if you look at clean water, sustainable construction, renewably-sourced materials, healthy processed foods, these are just a few of the challenges that our customers face and we can help them to solve. And I got to say, if you take a step back, for decades, DuPont has demonstrated an unwavering commitment to reducing environmental footprint and incorporating sustainability measures into our own business strategy. And with the world's population set to grow to 10 billion by 2050, we think that these opportunities and these capabilities are going to be a very important, long-term growth lever for our company.

Now let me move to Slide 10, and let me dive a bit deeper into the technology drivers. And let me talk about how our science and our innovation capabilities give us a competitive edge in the marketplace.

Each of these areas on the chart represent high-growth market opportunities where we're strongly aligned with our customers' product road maps.

So just starting with digital revolution. There's no doubt that the digital revolution is transforming the world. Every company you talk to is focused on how digital is impacting their markets, impacting their strategy, et cetera, et cetera. When you look at trends like automotive electrification, 5G wireless, the Internet of Things, these are huge opportunities for materials innovation. If you think about continued feature enhancement in consumer electronic devices, further miniaturization of electronic components, these are areas where the breadth of our product offerings and the ability to provide system solutions play to the strengths that we have as a broad, integrated materials supplier. Our unique differentiation here is our deep science and engineering expertise and our leadership positions in a broad set of advanced materials. This really makes us the go-to partner for our customers as they seek to deliver their own -- to develop their own innovative products.

Moving into the biotech space. I got to say, our industrial biotechnology capabilities are second to none. And the science in the biotech space continues to advance and continues to find relevance in new markets. Most recently, we've been using these advancing biotechnology tools, along with data analytics, to understand the microbiome and to help improve both human health and animal health and wellness. And the barriers to entry in this space are significant because of the technology, manufacturing investments needed and the deep science capabilities needed.

We have world-class R&D centers all around the world, in Silicon Valley, in Wilmington, in the Netherlands, in Denmark, in Shanghai. And those centers keep us ahead of the curve, and they continue to deliver new innovations.

And on the right side, as far as sustainability-related technology trends, I'd just say there's a strong need for sustainable products and manufacturing practices and staying ahead of regulatory trends. In some markets, industry or regulatory standards are raising the bar, and this is an opportunity for us. For example, with our broader materials portfolio in Safety & Construction, we're delivering a systems approach for energy-efficient construction, addressing thermal, air and moisture management altogether.

In the other end markets like apparel or consumer care, manufacturers and retailers are responding to consumer sentiment, where there's strong interest in renewably-sourced or bio-based materials. Here, we can offer naturally-sourced alternatives and added functionality, right? Because it's no longer just about renewability, there's got to be functionality benefits, too.

Another area that's exciting in the sustainability area is the water space, clean water. This is a challenge for consumers. It's a challenge at the industrial level. It's a challenge at the municipal level. And our leading water filtration technologies provide the trusted clean water solutions that these customers need across all of those end segments.

So the bottom line is these rapid transformations happening in our end markets require constant innovation, and we've put together a portfolio and business strategy to capitalize on these trends. We're a leader in our markets. We're the go-to partner for our customers. We closely connect our product development to our customers' applications, helping them to solve complex challenges that drive the
product innovation that they need. This focused approach enables us to deliver lower risk and higher returns on our R&D.

So let me turn to Slide 11 now, and let me talk about the key changes that we've made in the how we carry out our innovation process and how we're doing that in a way to improve returns.

New DuPont as a specialty company has to innovate faster; and we've got to increase the impact of our R&D investment. You all know, spending 4% of sales on R&D means that there's about $900 million annually that's being invested in our technology. So to deliver on our goals, one of the key changes we made is we fully embedded substantially all of our R&D resources into the businesses. You've heard Ed talk about that already. This brings us much closer to our markets and closer to our customers. We no longer have corporate R&D. That's a big statement. I started my career in corporate R&D, so that's a big statement for DuPont. We're excited about this change. This is a change from how DuPont's been organized, because we're seeing the results in terms of speed and impact. We translate market and customer insights into new products faster. We do it more effectively. And we really believe this design change was essential because the pace of our markets is moving faster than they ever have. So now our design still benefits from leverage across the company of a common playbook and approach to innovation. Our playbook relies on a disciplined and active management of the innovation portfolio, focusing first on the big market opportunities where we see the most innovation headroom. But the businesses are now responsible for selecting, managing and driving their R&D portfolios. And that leads to quicker decision-making and more nimble deployment of our investment towards the best opportunities, ultimately, to get better returns. The businesses are aligned around best practices and around the key metrics that we use so that we can keep a sharp focus on improving our R&D effectiveness. And we're continuing to invest in digital tools to increase our speed to market and further drive productivity.

We extend our competitive advantage through strategic collaborations across the businesses, and we'll talk about a couple of key examples of those later. We leverage external partnerships. We partner with our customers, okay? So we've left behind the not-invented-here mentality, and we're truly taking advantage of the breadth of our market access to improve the speed and returns on innovation.

At the same time, we do have a very strong intellectual property portfolio in our strategic markets and technologies, and we're extremely good at filing, protecting and defending our IP estate. This is critical for a technology company to maintain and extend our proprietary advantage and our competitive differentiation.

Let me turn to Slide 12. In addition to focusing on improving returns on R&D investment, each of our business leaders have full P&L responsibility and a clear focus on improving returns on capital. This is critical, we think, to achieving a best-in-class operating model, which is what we're describing on Slide 12. This model is based on an empowered and agile set of businesses, a lean corporate center and leveraged, cost-effective functional support. These are the basic principles.

We will ensure that we're -- that our spending remains competitive with top quartile for each of our businesses and for each of our operating budgets. We'll also continue to drive improvements in plant reliability, and Ed talked about this already. We know this area has the potential to deliver hundreds of millions of dollars of additional earnings.

We're also instilling a culture of relentless productivity, including the commitment to maintain corporate expenses below 1% of sales and to more than offset inflation on a year-over-year basis, even after our current cost synergy programs are completed.

Now changing gears a little bit. We remain committed to our core values, and our core values mean ensuring safe operations, a culture that's inclusive, respectful and rooted in integrity. And in my 23 years with the company, our core values have always served us well. They create real competitive advantage in the marketplace. The fact is, our customers all over the world know what we stand for, they know how we do business, and they know we do our businesses in an ethical and respectful manner. And that's a source of strength for us.
Now turning to Slide 13. In addition to having an innovation playbook, we'll also put in place the building blocks for a high-performance operating system. And this includes operational and commercial excellence capabilities and these are described on the chart here.

Let me start on the commercial initiatives side. We intend to utilize best practices in pricing, customer and market segmentation to ensure we're realizing maximum value for our products. Just to give you a sense, today, we have over 10,000 customers. Now that provides a diverse and balanced revenue base. It means we don't have too much exposure to any one customer. In fact, no customer accounts for more than about 2% of our total sales. And that's healthy diversification, which lowers our risk and reliance on a single customer, but it also highlights the need for playbooks in order to drive efficiency at scale when you've got that kind of diversification in your portfolio. At the same time, we do have strategic customers who cut across our portfolio. And for those customers, having strong collaboration between our businesses is actually a competitive advantage for us. And these include market leaders, companies you know well in electronics, in aerospace and automotive spaces. For these select customers, we deploy key account management practices to effectively coordinate across our multiple businesses. And the intent there is to give our most important customers the best access to all of our capabilities and solutions that we have available.

We also leverage a playbook for operational excellence, and we began this journey about 18 months ago to make a step change in the reliability of our plants. And we're making great progress to deploy specific best practices and industry-leading tools. You heard Ed give us a score of about a C when we started out in the journey. I'd say now maybe we're at a B or a B+. So we've made a lot of progress. We've still got room to improve.

We also apply a concerted approach to areas like EH&S, supply chain management, capital planning, and that's part of the operations playbook. As -- and just to give you a sense of how we think about this. As a pure-play specialty company, we can effectively leverage best practices in these disciplines across the businesses, taking advantage of the latest developments. Advances in digital, advances in Internet of Things are examples that are bringing new tools and capabilities, right? New tools for inventory planning, new tools for process control. To maximize our efficiency and speed, we don't need every one of our businesses tackling these things independently. Instead, we utilize a playbook. We rapidly implement best practices we share between the businesses. Above all, the playbooks, the benchmarking activities, are here to drive a culture of productivity and continuous improvement in our company. And we are confident that'll deliver improved shareholder returns, value for all our shareholders.

Let me go to Slide 14 now. This discipline I've been talking about also extends to capital allocation decisions and our focus on high-return investments, as shown on this slide. Both R&D spending and capital spending are targeted to be in the 4% to 5% of sales range. And we believe that, that's sufficient to maintain our market leadership and our growth momentum going forward. Our investments will be prioritized towards the highest-return projects in the most attractive, highest-value businesses. Now decisions about dividends and share repurchases ultimately will rest with our Board of Directors. However, I want you to know that we're committed to a shareholder-friendly dividend policy that consistently returns cash to shareholders, in line with earnings growth, in the form of dividends and targeted share buybacks as part of an overall balanced, disciplined financial policy. We anticipate a payout in line with specialty high-multiple peers and will effectively and strategically redeploy our cash. In other words, we're not going to be sitting on large amounts of cash. Our resources will always be put to use, and you'll hear a lot more about this in Jean's section shortly.

Finally, I'd like to supplement the internal growth investment story with a little bit of discussion about strategic M&A. Our strategic M&A will again be targeted to areas that offer the highest growth potential and the highest returns. And I'll say a bit more about that in a moment.

Now let me expand on capital expenditures and give you a little bit of data. When you look at our capital spending, growth programs will account for the majority of our capital investments, and we're targeting those to be in the range of 3% of sales. Most of our growth CapEx will be invested in smaller, incremental growth projects. Think projects that are in the range of $20 million to $50 million in sales at existing manufacturing sites. Larger growth projects, those that are over $50 million in total, will be much less
frequent in nature and comprise a smaller portion of our spend. Regardless of the size of the project, we'll be following a disciplined process to ensure projects are meeting their objectives, staying on budget and delivering the expected returns.

Finally, just to round out the capital spending, we expect to invest about 1% of sales on maintaining our sites and EH&S-related CapEx. And we believe that benchmarks very well within our industry group.

We currently have 2 large growth projects in our portfolio. First is the multi-site probiotics expansion, and that'll be completed in the coming months. And the second is our Tyvek expansion, which will be coming online in 2021. Both of these are strategic investments expanding capacity to supply sold-out markets which offer sustainable growth over the long term and far exceed our internal return threshold. So it gives you a sense about our thinking on when we're willing to do large growth projects. This consistent and prudent approach to capital allocation will ensure sustainable top-quartile growth and improving returns.

I'll now shift gears to active portfolio management. We're applying a disciplined and active approach to portfolio management. And the point here is really ensuring that our time and resources are focused on growing the businesses which we're the best owner of. And as you can see on Slide 15, we've steadily executed a series of business divestitures that have been enhancing the quality of the portfolio. Driving the decision on when to exit a product line or divest a business really stems from a best-owner mentality. Over the last 2 years, as you can see on this chart, we've divested, or are in the process of divesting, 6 different product lines, which in total, are expected to improve our EBITDA margins by about 60 basis points at the total company level. The most recent transaction we announced was the European Styrofoam business. And that business, which generated over $200 million in sales, lagged significantly relative to our expectations on margins. That action alone is expected to return the EBITDA -- improve the EBITDA margins of our Safety & Construction business by over 100 basis points when the transaction closes at the end of this year.

So we intend to continue this portfolio work into 2019. And as Ed referenced earlier, we ultimately plan to divest about 10% of sales of the enterprise based on the original portfolio. Now what'll this do for us? Well, first, this will continue to help to improve our EBITDA margins, but it also will benefit our top line growth rate, because these tend to be businesses that grow more slowly and it will improve our returns on invested capital. Actions like these will also generate cash, which we'll put to use deploying to create more shareholder value.

Moving to Slide 16. In addition to driving portfolio enhancement through divestitures, we'll continue to invest organically in our businesses and strategically use M&A to further maximize the value of our portfolio. Now what I'll say about M&A at this point is there's 4 key criteria that we're going to use to judge M&A opportunities and those are: Product differentiation; financial performance; industry and competitive position; and of course, high return on investment. All potential M&A opportunities will be scrutinized through these lenses and must deliver meaningful value to the portfolio that isn't possible through our current set of businesses.

Let me turn to Slide 17, and let me just take a moment to talk about our people. DuPont is home to extraordinary scientific and engineering expertise, with deep industry knowledge and diverse backgrounds. With our market leadership, with our reputation for innovation, with our globally recognized name, we're well-positioned to continue to attract talented people with exceptional knowledge, skills and vision, and we're very much focused on retaining our best talent so they build their careers with us. We're enabling a culture built on performance and a commitment to values that reflect our deep sense of responsibility for safety and environmental stewardship. And we are confident that all of this contributes to the sustainability of our business. We take this very seriously. These principles help drive value creation for all of our stakeholders.

And finally, as Ed mentioned, we plan to upgrade our management incentive programs to align them more closely with returns. We're adopting an enterprise-wide focus on ROIC while continuing to incent the organization to deliver sales and operating EBITDA growth, too.

So let me now recap our 5 key opportunities to drive shareholder value, starting on Slide 18. Our primary value-creation driver is the innovation we bring to our customers. Our science, our proprietary technology,
our applications expertise and our customer relationships give us a meaningful competitive advantage in end markets that are undergoing change at an extraordinary pace.

Our second lever is portfolio and capital management. Our continual focus on optimizing our portfolio will ensure our resources and energy are used to deliver sustainable margin growth. This will also help us identify areas to bolster through M&A so that we can continually create increased value and bring in more outside innovation. Our disciplined approach to capital allocation will help drive the improvements in ROIC that we need. And as we've said, this is an important metric for the new DuPont, where we have significant room to improve versus our peers.

And then third, on Slide 19, is our operating structure. First, our announced cost reductions, our cost synergy programs remain on track. You'll hear more about this from Jean. And we remain on track to deliver best-in-class operating margins. We've designed an execution model that increases employee engagement and empowerment while accelerating the speed of our execution. Through a relentless focus on productivity, we'll maintain our lean cost structure and continue to empower our businesses to deliver.

Fourth, our organization will be performance-focused. To ensure employees' and shareholders' interests are fully aligned, ROIC will be an integral metric in our incentive comp structure.

And then this leads to our last lever, which is a balanced financial policy, which will be shareholder-friendly, and I'm going to try not to steal Jean's thunder on that one. So you'll hear a lot more about that shortly.

So with that, speaking of Jean, I'd like to now introduce Jeanmarie Desmond, our CFO-elect. Jean has a rich tenure at DuPont that really uniquely positions her to be our CFO. She is currently the Co-Controller of DowDuPont, and she previously led DuPont's internal audit and corporate accounting organizations. She's held finance leadership roles in various businesses. And for those of you that followed DuPont in the 2009 to '11 time frame, you'll recognize her from her time in Investor Relations. Jean's been a great partner to work alongside, helping to set up the new DuPont for success. I'm highly confident in her abilities, and I look forward to continuing to partner with her.

So let me close where I began. My enthusiasm's never been higher about the future for the new DuPont. Jean, thank you.

Jeanmarie F. Desmond
Head of Finance for the Specialty Products Division & Co-Controller

Thanks, Marc, and good morning. I am thrilled to be here with you today. As Marc mentioned, I’ve worked in a variety of finance roles during my career with DuPont, and I'm looking forward to partnering with Ed and Marc in the new DuPont. I'm also fortunate to have an excellent finance team, one that's extremely capable and highly focused on driving both growth and returns.

The new DuPont is committed to generating strong returns and providing additional transparency into our financial results. Along these lines, we will use the key metrics on Slide 21 to guide our businesses internally while providing progress updates as we strive to move all of our metrics to best-in-class results.

We will continue to report organic revenue growth as a key metric. And by organic, I mean excluding currency and portfolio impacts. We expect to deliver above-GDP growth, led by new product sales from customer-driven innovation that will enable us to deliver price improvement.

Central to this will be continued success in high-end growth markets such as probiotics, pharmaceuticals, consumer electronics and auto electrification.

New to our reporting will be operating EBITDA leverage, free cash flow conversion and return on invested capital, all of which are key metrics to measure ourselves as we ensure we're driving the businesses effectively and efficiently while delivering on growth. These metrics are consistent with those used by our best-in-class peers and reflects our commitment to increased returns and shareholder value.

We expect to deliver consistent operating leverage, driven by both top line improvement as well as the completion of our synergy programs and a relentless focus on productivity roughly equal to anticipated inflation.
Our disciplined operating model, as well as active portfolio management strategy, will also be key to delivering our financial targets. As Ed mentioned, our current free cash flow conversion already benchmarks at best-in-class levels. And note we are excluding the impact of amortization expense from this calculation.

We expect to drive continued improvement in ROIC through disciplined capital allocation, targeting investment towards our highest-growth opportunities with a distinct focus on low-risk, high-return projects. Any excess cash, once we meet internal commitments, will be returned to shareholders.

Turning to Slide 22. I’ll now review where we stand on our largest productivity initiatives to date: The $1.65 billion we’re driving in cost synergies from the merger.

We continue to remain on track, and on a run-rate basis, delivered more than our stated goal of 75% of the savings targeted at the end of last quarter and will be fully completed on a run-rate basis with the program by quarter 3 of next year. From a realized saving perspective, this year, we expect to deliver $400 million in savings and then an additional $450 million in 2019, bringing our cumulative total to $900 million at the end of next year.

Beyond the savings realized from the cost synergy program, we are also benefiting longer term from an enhanced focus on driving productivity, cultivating a culture of quick decision-making and operating discipline, with a continuous eye towards best-in-class benchmarks. Even after the cost synergy program is complete, we will continue to hold our businesses accountable for making smart investments and we’ll keep track of productivity initiatives in order to better understand our underlying growth.

All in, we have made tremendous progress, and I am extremely proud of our team for all of the hard work in this critical area. One important and easy metric to show productivity improvement driven by this increased focus is revenue and operating EBITDA per employee currently as shown on Slide 23. We have improved revenue per employee over the past 3 years by nearly 30% and adjusted operating EBITDA by nearly 60%. This is a direct result of executing a robust operating model focused on top line growth and maintaining a best-in-class cost structure. We continue to remain committed to driving improvement in this area.

I’m confident we have the right operating model in place to continue to improve financial control and cost discipline, as shown on Slide 24. We have transitioned full P&L responsibility to our businesses and they have the necessary resources within their organization to drive continued performance. Together, we are well positioned to deliver on our commitments.

We have global managing processes in place that enable not only access to key data to make timely decisions, but also enable full transparency into business performance, and we are providing the support through leveraged functions which enable a lower cost position.

I can assure you that we -- all of our businesses are committed to driving returns and cash flow, and we will continue to be stewards of your investment. Driving improved returns starts with ensuring the right amount of scrutiny is applied to all of our capital investments. This operating discipline is conducted within the businesses where we enforce robust decision making and accountability for results. Slide 25 illustrates how this disciplined and improved operating model will pay off in higher top line growth, margin expansion and return improvement.

Our top line growth expectations are enabled by the success of our innovation pipeline. We are targeting new products to comprise 30% of sales, which will enable growth from both a price and a volume perspective. We define new products as those launched in the last 5 years and follow a robust methodology to define and track our progress. We believe our current target is an aggressive best-in-class target for overall DuPont. It will vary by business based on innovation headroom and industry dynamics. Currently, new products comprise about 25% of sales, and we are focus on bringing this up to top quartile levels. We expect growth in new product sales to drive not only the top line, but also deliver margin expansion and increase operating leverage.

Along these lines, we are also extremely mindful of the need to make selective high-return, low-risk investments. To help you conceptualize how we put this into practice, the average R&D program spends
less than $10 million per year and is targeted to market areas where we already have a leading process and technology footprint and is driven by customer demand. The same goes for our capital spend. We will continue to pursue a capital-light strategy and will direct capital investments towards markets that need capacity to meet growing and sustainable demands. We expect the vast majority of our capital projects will be incremental investments at existing sites in the range of $20 million to $50 million per project and focused on building on our already strong market positions.

Bringing this all together, let's now review how we're performing in 2018 on Slide 26. We are continuing our rapid growth trajectory, with expected net sales improvement of about 8%, 5% on an organic basis, and adjusted operating EBITDA growth of about 13%, again, excluding the benefit of non-op pension. That's an underlying adjusted operating EBITDA leverage of about 1.6x, which is reflective of both top line growth as well as synergy delivery.

Operating leverage is a measure of how we convert sales growth to earnings growth, and it will be a key metric for how we report and measure ourselves going forward. This year, we also expect to improve our gross margin and operating EBITDA margins by over 100 basis points each. I'm really happy with the progress we have delivered this year and pricing discipline. We plan to deliver a 2% improvement in local selling price and are working with all of our businesses to continue to drive improvement beyond this year.

Some of the pricing benefits we are delivering are being offset by raw material increases, but we have been able to more than cover these headwinds with price improvement that we are driving as well as synergy delivery.

2018 is shaping up to be a strong year, and our expected performance will be in line with the sales and EBITDA guidance that we put in place at the beginning of 2018 and reaffirm in connection with our third quarter earnings.

It's important to note that all estimates provided today are on a DowDuPont segment basis and are not reflective of the operating EBITDA that we expect to report on a standalone company basis.

So on Slide 27, I've laid out the additional costs we expect to incur as a standalone public company. This basis will be presented when we file pro forma historical financials for new DuPont. We continue to expect to deliver corporate costs below 1% of sales at separation. We have made great progress delivering reductions in our future corporate costs since last year.

On an adjusted 2017 basis, our corporate costs were about $390 million. Since that time, we've driven reductions primarily through cost synergy programs and anticipate these expenses to be at about $150 million run rate basis at separation.

At the segment level, we expect to incur an additional $170 million of cost at spin, a reduction of about $75 million from the 2017 basis. These additional costs are included in the DowDuPont corporate segment today, and they do include precommercial R&D supporting our Industrial Biosciences business. These costs are being managed by IB today, so it make sense that we move them into their P&L post-separation.

The remaining bucket of spend moving out of corporate and into the segments are related to costs that directly support the businesses and therefore, will be transferred to their P&Ls. All told, based on our current assumptions, when pro forma financials are made available for new DuPont, you can expect that the DowDuPont Specialty Products Division segment level pro forma operating EBITDA for 2017 of about $5.6 billion would be adjusted to about $5 billion on a standalone basis. From 2017 levels, we anticipate reducing these costs by $300 million to $325 million at separation.

As shown, we are focused on reducing these costs. And when I say focused on reducing these costs, I do mean spending less. This is not an exercise in moving cost from corporate to business and calling that a reduction.

Our medium-term targets for all of our key metrics are presented on Slide 28. We are targeting top line growth of 3% to 5%, which is in excess of expected GDP growth. Again, key to achieving this metric will be new product sales and the strength of our secular end markets. We anticipate delivering operating EBITDA leverage in the 1.5x range through top line growth as well as a continued focus on cost
productivity even after our synergy programs are complete. Our target for free cash flow conversion is greater than 90%, in line with multi-industrial peers. We currently benchmark very well for this metric. But again, always room for improvement.

One area we are driving hard is working capital productivity, and we are targeting enhanced performance across all 3 main components: accounts receivable, inventory and accounts payable. We're utilizing the latest in big data to better manage inventory levels, taking advantage of supplier financing to reduce working capital, as just a few examples.

Finally, we intend to deliver a robust improvement in our ROIC. Our current adjusted return on invested capital on a public company standalone basis would be about 27%, and we are targeting to drive greater than 100 basis points of improvement annually through actions such as disciplined portfolio allocation -- portfolio disciplined capital allocation, portfolio refinements and a focus on customer driven innovations.

As Ed mentioned, we expect to focus on ROIC, but we are focusing on an ROIC excluding the impact of goodwill and intangibles, due to the large purchase accounting adjustment from the DowDuPont merger. If you exclude only the merger-related goodwill and intangibles, which account for about 80% of the total balance, our ROIC would be more in the neighborhood of 11%.

However, given the complexities with this calculation and our desire for you to be able to calculate ROIC right off the face of our financial statements, we expect to report an adjusted view with all goodwill and intangibles removed. Our focus will be on improvement, and we are committed to raising ROIC at least 100 basis points annually. We are definitely on the right track, having driven several hundred basis points of improvement since 2016.

Turning to Slide 29. Earlier this fall, we conducted the RAS/RES process with the rating agencies. And based on our strong portfolio of businesses, solid operating plan and commitment to a strong balance sheet, we are targeting a BBB+ credit rating. We expect to have about $3 billion commercial paper program to ensure access to liquidity, which will be used primarily to fund intra-year needs and short-term cash needs.

We don't expect to materially tap into these facilities, and we'll continue our efforts to repatriate cash to fund short-term needs. We also expect about $16 billion in long-term debt obligations and about $1 billion in unfunded pension and OPEB liabilities, primarily for plants outside the U.S. This implies an adjusted gross debt-to-EBITDA of between 2.5 and 3x.

This planned capital structure will enable adequate access to capital and the flexibility to ensure that we have the ability to execute on our plans and continue to drive shareholder value.

Moving to my final slide, Slide 30. I'd like to discuss our financial policy to the new DuPont. We expect to maintain a strong balance sheet and follow a disciplined approach to R&D and capital investments targeted at about 10% of sales combined on an annual basis.

DuPont will continue to focus on delivering value to shareholders and is committed to financial policies that support a stable and growing dividend supplemented with share repurchases such that our total payout is in line with best-in-class peers.

We're going to target a dividend payout of about 30% to 40% of net income. For modeling purposes, you can forecast this at the midpoint of the range. As both Ed and Marc have outlined, we will have a robust M&A strategy that focuses on divesting product lines where we are no longer the best owner and making acquisitions that fit within our core competencies and deliver solid returns.

We will have a process to track actual results versus expectations for all acquisitions, and we will be transparent with you about our performance. In closing, I couldn't be more excited about this robust portfolio and the shareholder value I believe we are uniquely positioned to create. And with that, we are going to open the floor for Q&A.
Question and Answer

Lori Koch  
Director of Investor Relations

So we're going to conduct Q&A until about 9:45. We have a couple of mic runners. Pat Fitzgerald, who's part of the new DuPont Investor Relations organization, he'll be on this side. And Barbara Pandos, who's part of Communications, will be on this side. So raise your hand and we'll get you a microphone. So Jonas, I'll start with Bernstein. Wait for a sec until you get a mic. Pat's coming right behind you.

Jonas I. Oxgaard  
Sanford C. Bernstein & Co., LLC., Research Division

So Jonas Oxgaard from Bernstein. On one of the slides there, you had new cultural tenants as part of your plan. Can you talk a little bit about what does that mean and how does that fit into your performance conversation and plans?

Marc C. Doyle  
Chief Operating Officer of Specialty Products Division

Yes, let me take that one, Jonas. Thanks for the question. So we implemented, I guess, about 6 months ago a new culture for the new DuPont. And I like to joke, there's 2 ways to do this. You hire some expensive consultants. They come in and transform your culture or you align around the leadership team on a few key themes and you talk about them until everybody's sick of hearing you talk about them and you try to show examples of what you're talking about. We took the latter approach. So our new culture is driven around 3 principles. One is what we call, make an impact. It's just get stuff done, kind of simplify, kind of empower organization. The second is act like owners. It's trying to get our employees to feel like they're more part of the future of the new DuPont. And the third is partner with customers. So be customer focused, be externally oriented. And we've been -- we're 6 months in now kind of rolling that out and explaining what we mean and starting that process of aligning things like HR policies and awards and recognition and communications around those principles. So I call it a work in progress at this point, but an essential step. Thanks.

Lori Koch  
Director of Investor Relations

David?

David L. Begleiter  
Deutsche Bank AG, Research Division

Dave Begleiter, Deutsche Bank. Ed and Marc, could you discuss the industrial logic of keeping these 4 businesses together over the longer term versus perhaps separating them out into 2 or more pieces?

Edward D. Breen  
CEO & Director

I'll take it. And Marc, you might want to jump in on it, too. I think Marc described, actually, a lot of logic to the way this company is run. I think there's some really good multi-industry companies out there that have the right process systems, customer-led innovation, application engineering expertise. You could go down a list. So these businesses are somewhat different. I would never say they are tied together that way. But a lot of the processes in the way you run a company like this, a high-end specialty multi-industry company, I think, are very similar. And as Marc said through his presentation, we're really using a best practice playbook across the platform. If we do that well, and by the way, we have been doing that well, you'll continue to see great returns for shareholders. So from that logic, it makes a lot of sense. There's always going to be the look with the Board of, is there any other path that creates more shareholder value? We will constantly take a look at that. Marc and I and the team have already done that with the Board during this past year. And look, we'll watch and see how this company trades in the marketplace.
I'm pretty pumped up about how I think it's going to trade when you look at these kind of results and compare them to the peer set. But we'll see and we'll constantly do an evaluation of that. And whatever the best path is to create value, we're going to pursue it.

Lori Koch
Director of Investor Relations

Kevin McCarthy.

Kevin William McCarthy
Vertical Research Partners, LLC

Kevin McCarthy, Vertical Research Partners. Will you provide an update on where we stand on the subject of transfer pricing? You've had a number of different businesses moving as you head into the spin. What will stay the same? And what will change with regard to how prices are transferred among the companies?

Jeanmarie F. Desmond
Head of Finance for the Specialty Products Division & Co-Controller

Great. Thanks for the questions. So today, we transfer products across the company at cost. And if you think about the dynamics of our business, we don't have a lot of cross-business transfers of products. So we don't expect or don't anticipate changing that right now.

Lori Koch
Director of Investor Relations

Chris Parkinson?

Christopher S. Parkinson
Crédit Suisse AG, Research Division

Chris Parkinson from Credit Suisse. You started with diagnostics a few years ago in terms of the revenue divestitures. You've recently done the euro cellular phone. The target's gone from 5% to 10% in terms of revenue divestitures. Can you just give us a broad update on just where you stand in terms of how you're approaching that 10%, and whether or not you think there could be upside? And just in terms of the returns of these businesses on how you're envisioning the portfolio, let's say 2 or 3 years out, how are those characteristics, on average, versus what your vision is of the assets, as I said, over the longer term?

Marc C. Doyle
Chief Operating Officer of Specialty Products Division

Yes, let me take that one. So we gave you the picture of the historical and starting with diagnostics, as you said, and one of the reasons we wanted to put all those examples out there was just so that you can kind of see the thinking, right? In some cases, these are more commoditized product lines, and we don't think we're the best owner because we don't think we're particularly good at running commodity businesses. In other cases like diagnostics, it was a great, highly specialty business. But we were very, very subcritical versus consolidations happening in that equipment industry. And we knew as a kind of one-horse, one-pony sort of show, we weren't going to be able to be the winner in the space. Let somebody else who's ultimately a better owner than -- run that business. And we got significant value from that transaction that we can deploy in other areas. So there's a couple different ways we're thinking about the 10%. To your questions on going forward, we're going to execute just as quickly as we can. We're saying a couple of years just to make sure that we deliver. But it'll be as soon as we can execute the plans that we've got in place here. And then, is that the end of it? 10% is kind of a ballpark, right? We started, you may have noticed, saying 5% to 10%. Now we're saying 10%. As we work the portfolio, you really get to think of this as a dynamic process of constantly evaluating what fits in the portfolio, what doesn't fit, and what might be more attractive potentially, and if available, with the right returns from outside.

Lori Koch
Director of Investor Relations
Don Carson?

**Donald David Carson**  
*Susquehanna Financial Group, LLLP, Research Division*

Don Carson, Susquehanna Financial. Question on R&D. The old DuPont used to talk about improving a percentage of sales from new products. They used to talk about smaller, more targeted R&D projects. So what's truly different? Is it the elimination of central R&D? Is it putting R&D under the business managers? And what kind of improvements underneath these metrics have you made the last 3 years?

**Edward D. Breen**  
*CEO & Director*

Yes, let me just start on that. And Marc, you should jump in also. Look, there's been a fundamental change here. When I opened up yesterday, I said there's a radical change in the way Dow's being run and DuPont is being run, and I really believe that. I think you're seeing that. One of the radical changes was -- exactly goes to your question, Don. There was an -- and Marc mentioned this in his comments. There was a big spend in central R&D. And if you went back and studied the output of that central R&D over the last 10 years, when I arrived at the company, there is nothing -- there was no product that came out of it that we were selling in the marketplace. And so we didn't get rid of all that R&D. We got rid of some of it. But we embedded it in the businesses with the 5 presidents where we thought the scientists should go and blow them away. So here we were, blowing a major piece of R&D spend and getting 0 return on it. So the returns in the company, that was actually one of the reasons the returns were so low. And so doing that was a huge move for us. But once you get it all into the businesses, believe me, the presidents care. They track it. They have a P&L. And one thing we've also gotten good at which the company just didn't do as well before, and this is -- by the way, scientists are like this. No project ever got killed. Even when you tried to kill it, it moved off into some other building somewhere. They need to keep working on it, and I've had this through my whole career, believe me. So the discipline about tracking each program, as Marc has said, the schedule behind it, you hit your ROIC metrics, they don't, by the way, have the guts to kill something when it's not working and instead of letting the string play out. So I think that's just a big fundamental change and that's really going to drive up the new product percent, and that's going to drive up the returns in the company. And let me just comment. The same thing was going on, CapEx, and that's why you keep hearing me and Marc harping on it. We're not doing any big risky CapEx.

When you went back and looked at the company, it was like the 80-20 rule. The money was all being spent on like 10, 12 big projects. Our returns were pathetic. Then when you look at all the hundreds of projects, the returns were pretty darn good. I thought they could get better. We could work it, but pretty darn good stuff, the $10 million to $15 million project, great. And so -- then you go back and research all of those big projects, it wasn't a beta. It was Cooper River. And we've cleaned all that up, and we're just not going to do it. We don't need to do it. Marc and I have actually, sitting around with Jean, and we actually have so many great CapEx projects that we think have good returns, we're kind of wrestling with do we want to spend a little bit more? And in fact, this year, Marc and -- we all decided to spend an extra $100 million more than we were planning on about halfway through the year because we have these great $10 million, $15 million, $20 million projects. So those 2 things, the way we've disciplined CapEx, we've disciplined R&D, is really what's driving the returns up in the company, and incrementally, our returns are pretty spectacular. We've got to get the whole company to help keep transforming that up to the commitment that Jean made, 100 basis points a year.

**Marc C. Doyle**  
*Chief Operating Officer of Specialty Products Division*

And let me just add one thing on the NPS metric. Because like you said, we've had new product sales as a metric forever and ever. We had a real deep debate about whether that's the metric that we want to put out there. Savvy investors understand that, that metric isn't the answer. There's no perfect metric for return on innovation. Frankly, what's most important is that we're delivering top line growth, pricing power to offset raw materials through our innovations, right? So you'll see that in our financial metrics, first and foremost. My view, and I was a strong advocate for this, is NPS is another way to look at whether innovation's working. If the top line growth isn't there, you look at the NPS metric, but you have to
be savvy about it. There's plenty of other metrics we measure. The NPS will vary between businesses because of the different cycles in the businesses. You have to look at grow versus replace in the NPS metric. You have to look at the quality of the earnings from the new products. We're doing all that stuff, too. But given that our high-performing peers are still reporting NPS, by and large, and given that we get a gap, you ask, for where we've been, DuPont was up in the 30s and there was no top line growth. The number has fallen into the mid-20s, and we're getting pretty good top line growth. So clearly, this metric isn't the perfect answer. But we do know that we think we should be up in the 30s. And there's some good studies that show that there's a pretty darn good correlation between high NPS and high gross margins. And high gross margins is a good indicator of a quality of a specialty company. So that is some of the logic on saying we're going to put that out there, continue to track it, show you how we're doing.

Edward D. Breen  
CEO & Director

And by the way, maybe there's another way to do the math for R&D. If we were spending almost 15% of our R&D that wasn't getting any productivity at all because it was the moonshot projects that we stopped, imagine that 15% embedded in all the businesses relative to the total spent and how many other $10 million projects this company would have been doing. That really revs up the new product introduction pipeline coming up. That alone, that change alone, will rev it up pretty significantly.

Lori Koch  
Director of Investor Relations

Vincent?

Vincent Stephen Andrews  
Morgan Stanley, Research Division

Vincent Andrews from Morgan Stanley. One of the criticisms about multi-industry companies is that the segments don't have the focus. They're competing for capital. They are competing for R&D dollars. So could you speak a little bit about how you're going to attack that and how you're going to make sure that somebody, company A doesn't feel like they're capital's being spent at company C, and vice versa? How do you police that and ensure you get the highest returns?

Edward D. Breen  
CEO & Director

I've dealt with it my whole career, so I'd love to hear Marc answer this one. You start out.

Marc C. Doyle  
Chief Operating Officer of Specialty Products Division

I mean, yes, it's a great question, right? And we wrestled with it in the design, right. The way I like to put it is, by asking each of the presidents to be responsible for delivering the best performance in their segments, providing clear peers that we're going to measure our performance against so you can see how well we're performing, we make their lives really challenging and our lives a little bit easier. On the other hand, our job is to now ensure that we're allocating capital and holding ourself responsible for delivering good performance in these segments, right? So I'm not in there managing all the R&D programs and the capital programs. But we’re certainly -- our job in this group is looking across the segments and saying "Are we really treating each of these the way that they should be treated?" And are we delivering the results that shareholders should expect in each of these segments, right? Can you see best-in-class peers and can you see that these segments are performing with those best-in-class peers? And if that doesn't happen, either our segments are not performing well in terms of the capital they're getting or we're not the best owner, right, because there's too much complexity. So that's kind of the way I think about our role versus the business leaders' roles and our responsibility to show you how we're performing as an owner of these segments.

Edward D. Breen  
CEO & Director
Vincent, just to add to that too, none of these businesses are -- I hate multi-industry companies that say, well, this is my cash cow and I'm deploying that money over here in my growth businesses. We're not doing that. I like -- and Marc more than me knows the -- I love these 5 businesses. They are really great growth businesses with great opportunities in front. So we're not shortchanging one over the other because we have a different feeling. This -- and especially we get rid of the 10% portfolio we're working on, I feel these are all high-performing businesses. So we're very fortunate, at least as I look out over our 3-year plan, just to give that to you because we've laid it out already, we have all the capability to do what we need to spend on CapEx. And I truly think between 4% and 5% is about the level we can accomplish everything we want to accomplish. Again, we're not doing any big, risky projects that would blow us pass those numbers like the company used to do. So we're not going to risk it on a cellulosic ethanol plant. So we can fit that in, that 4% or 5% range. And R&D, as Marc said, 4% is $900 million a year we're cranking out. So we're not skimping on anybody. So that's a good feeling out of that. And by the way, this company is going to generate a lot of excess free cash flow. I mean, you could do the math from what we show here. We're going to have a lot of excess cash capability, so we have flexibility to do what we need.

Lori Koch  
Director of Investor Relations

P.J.?

P.J. Juvekar  
Citigroup Inc, Research Division

P.J. Juvekar from Citigroup. First of all, congratulations on getting rid of corporate R&D and moving into businesses. The question is this. If we get into a recession, then it will be easier for business leaders to just cut R&D to make earnings goal and meet returns goal. So that may lead to some short-term thinking on R&D. How do you avoid that situation?

Edward D. Breen  
CEO & Director

Well, look, we won't let that happen. If anything, our R&D might creep up a little bit here. We're kind of just right below 4%. So it might actually, on a true dollar spend, creep up slightly over the next couple of years. So -- I mean, it -- by the way, if you knew the culture of the company, that would never happen. Just alone, that would be there, but don't forget, we're benchmarking ourselves on growth and returns also in combination. And I think that's the key. You got to get both. So I'm always concerned when we put things in our pay system, people game the system or they crank one thing too much in one direction. I think the way we're setting up our bonus structure and pay structure and then including our long-term performance incentive around stock options grants and all, I think we will have the right balance here to accomplish that. I'm very aware of setting that up properly.

Marc C. Doyle  
Chief Operating Officer of Specialty Products Division

Yes. I'd also, just building on Ed's comment, add, this is the leadership team of the company, right? So just like you heard from Dow yesterday, flattening out the organization, simplifying the leadership structure. You got the right people in the room every week that are running the company. So we're not going to lose sight of what's happening down in these organizations. In the past, when we had so many layers and so much complexity, it might have been more of a risk.

Lori Koch  
Director of Investor Relations

Steve?

Steve Byrne  
BofA Merrill Lynch, Research Division
Yes, Steve Byrne, Bank of America. Marc, going back to your roots in R&D, where would you see areas of synergy by having cross-selling or technology transfer? Just where are opportunities for innovation transfer between these 5 business units and/or having them co-locate it at the experiment station.

Marc C. Doyle  
Chief Operating Officer of Specialty Products Division

Yes, Steve, it's a great question. The way I like to put it is, we do have some pretty strong opportunities for innovation, but they're limited in number. And we're kind of laser-focused on those couple of big themes. And a couple of them, they'll appear in the presentations a little later, but I'll preview. Microbiome, biotechnology in general, is a huge growth driver between N&H and Industrial Biosciences. And there's a lot that the 2 businesses are doing together that are taking advantage of kind of a core set of technology capabilities, tools, R&D centers. And so that's on one side of the portfolio. If you go over to the industrial specialty side of the portfolio, the electronics convergence into the world, electronic integration into automotive, electronic integration into surfaces in construction, is a real trend where our teams are working side-by-side to figure out how to go to customers, how to staff research programs, how to work together in the R&D centers. We're -- we haven't announced yet, but soon you'll see announcements around additional investments on auto electrification, battery pack, development, design, things of that nature that are cross-business initiatives where we're really working together. The difference though from the past is these sort of collaborations and the new culture and operating model are driven by the businesses. So the way I put it is, I'm not here to force them to collaborate. Collaboration should be spontaneously happening where it really makes sense, right? And that's the scientist and marketing people saying "You know what, we should be working together here because there's an opportunity to leverage between the businesses." So we try to reduce the barriers between the businesses, take a big step back from a corporate level and foster collaborations where they makes sense, and a couple of pretty sizable ones have emerged.

Lori Koch  
Director of Investor Relations

Jeff?

Jeffrey John Zekauskas  
JP Morgan Chase & Co, Research Division

Jeff Zekauskas from JPMorgan. The management structure of your company seems unusual in that the -- Ed, you're the Executive Chairman and you're playing a very, very strong role, it seems, in the guidance of the company. How would you differentiate your role from Marc's role? And in what way are Marc's incentives different from your incentives? Do you have unusual incentives as Executive Chairman that tie you to the success of the company over time?

Edward D. Breen  
CEO & Director

Yes. No, it's a great question, Jeff. And by Marc and my incentive, you'll see this file publicly. So they're identical, and they should be. It's all the same goal, to create shareholder value. No, that's interesting, Marc and I -- I've sort of played these roles before in the past companies, maybe with different titles. And a big part of mine will be Marc and I will be very closely tied together, by the way. And we already are. We get along great. It's been a great 3 years together. But I'll focus more on areas with the team on capital allocation, R&D allocation on big things, big investments we're looking at, M&A things we'd be looking at, more down that road. By the way, Marc will be doing it hand-in-hand with me with Jeanmarie, as we do it now. So we're focused there. Operationally, Marc has done a fantastic job running the company and hitting on all cylinders and pulling all the levers. So sure, I'll be looking at all of that, but my focus will be more on some of the bigger things and how the capital gets allocated in the company and driving these strategic decisions with Marc and the Board on where do we want to take the company and back to the question we got earlier, should the portfolio stay the way it is, do you want to do anything, those types of things that I think are big lever issues.

Marc C. Doyle
Chief Operating Officer of Specialty Products Division

And I’d just add, I know Ed didn’t ask for my input to this question, but I’ll just add, there’s no daylight between Ed and I. I mean, we’ve been working, as Ed said, 3 years and a month now. We work great together. We sit next to each other. So we’re completely aligned here. I would really view this as a win-win opportunity. I mean, you get two people for the price of one, let’s say, and you get a lot of capability that Ed brings. That creates a lot of value for the company. So I think it should be a very positive thing for the company.

Edward D. Breen
CEO & Director

Scared me, he said 3 years and a month, and he’s counting that much.

Marc C. Doyle
Chief Operating Officer of Specialty Products Division

3 years, a month and a couple of days.

Edward D. Breen
CEO & Director

And by the way, just to that question, I actually talked to -- I just, to tell all of you, another company I think handles it really, really well is Estée Lauder with William Lauder as the Chair, Executive Chair, what their CEO [indiscernible]. They’ve had spectacular results and they’ve pretty much scoped out that responsibility exactly the same way Marc and I are handling it for DuPont.

Lori Koch
Director of Investor Relations

[ Mark? ]

Unknown Analyst

So just to follow on that, to tie the synergy question with the M&A question or the portfolio question. A lot of the synergies you’ve talked about involve degrees of freedom, best practices, market relevance, ways to put angles of attack on the same problem for end customers. If you do find assets that are #1, #2 in an end market and hit the right return criteria, what is the limit on scale for acquisitions that you would consider over say 5 to 7 years?

Edward D. Breen
CEO & Director

Well, I’ll start. Did you say size of acquisition?

Unknown Analyst

Yes.

Edward D. Breen
CEO & Director

I mean, look, you’re never going to commit fully, so let that be my preface. But what Marc and the team have been looking at is, I would just use the term, more tuck-in acquisitions size. I guess everyone thinks of that as a different thing. But you’re not going to see us do another merger of equals, let me put it that way. But more tuck-in things that hit these secular trends that Marc talked about. And by the way, there happens to be a lot of those in these businesses. It’s pretty unbelievable. And quite frankly, there’s not a lot of big things, even if you thought it looked good, that you would actually do. It’s pretty interesting. So -- and I’d use the Nutrition & Health business here, looking at Matthias. It’s -- we’re big in it and we’re the biggest in revenue. There’s a lot of fragmentation in the industry. So I think you -- it’s more down that tuck-in opportunity thing. And by the way, I’d also add, one of the things that we’ve talked about as a team, and you heard kind of some of our M&A criteria, but one of the ways we’ll do that measurement...
on M&A is that -- and I've always done this in my past and it has always worked really well. We're going
to make sure the M&A deal works on the synergies, the cost synergies of the deal and that we can get to
a quickly accretive deal. The fact of the matter is, most of the tuck-ins we would do, we would probably
be actually doing as a strategic growth opportunity. And the power of taking maybe a smaller tuck-in
company and putting it over our global network, we can really blow up a nice revenue opportunity in a
core area. But that would be the gravy, and we're not going to count on that with our board when we do
an approval. So the safety will be in handling an M&A that way.

Lori Koch
Director of Investor Relations

Anyone else before we go back around that I'm not seeing. Go back to Jonas.

Jonas I. Oxgaard
Sanford C. Bernstein & Co., LLC., Research Division

So you had the 1.6x leverage on EBITDA, but a lot of that has been synergies. So as we're thinking about
2020 or so when the current synergies are hopefully all captured, how should we think about that leverage
going forward?

Marc C. Doyle
Chief Operating Officer of Specialty Products Division

Yes, you want me to take this? I mean, I think one thing to keep in mind is, so we put a number out
there of 1.5 going forward for the midterm targets. And as you can imagine, we've debated, is that too
aggressive? Is it aggressive enough? And we think that it's a challenging but achievable target post
synergies. We've been higher than that. To get to the underlying numbers, as you know, you've got to
strip out currency and portfolio. And you'll see that the underlying leverage recently with all the synergies
has been north of 1.5. I mean, it's been closer to 1.8. So we've been overdelivering. And let's be honest,
we're in a little bit more of an inflationary environment in the chemical industry, right? So even with
raw material cost pressure, we've been overdelivering because of the synergies. As we move into this
new phase, where it's more about just day-to-day growth and delivery of productivity, we think that 1.5
number is a pretty solid target. Now just to give you a sense of what that means, you do the math, that
means about 50 basis points a year of EBITDA margin improvement. And for where our margins are right
now, it's no easy feat. So it continue to drive 50 basis points a year. So we think we can do it for the first
few years this midterm period. We're going to continue to assess what's the right balance between growth
and margins given how the portfolio evolves here.

Edward D. Breen
CEO & Director

By the way, we're going to have productivity moves all the time. I mean, we're fortunate to be able to do
all this cost takeout because of the merger. And by the way, we've done a lot of just true just cost takeout
that wasn't part of the synergy. But we have opportunity as we move forward, and one of the biggest
areas we've got to get fixed -- I kind of like having the problem because it's all upside, is our IT systems
are going to be really, really messy coming out of the chute. And that translates into a lot of G&A cost in
the company that shouldn't be there. So we're not where we can get to yet. And that will be a project that
we'll really work on our first 2, 3 years out of the chute as a new company. And then we've really got to --
and by the way, we now have good progress that Marc upgraded his grade on.

Marc C. Doyle
Chief Operating Officer of Specialty Products Division

Am I allowed to do that?

Edward D. Breen
CEO & Director
I agree with that, and the factory efficiency piece, that's where a lot of our wasted money is sitting too. So we got to now keep the momentum we have going and get that done. So we've got some pretty good cost improvement programs as we move forward. They're kind of out of that synergy bucket.

Marc C. Doyle  
Chief Operating Officer of Specialty Products Division

Into the next phase, yes.

Lori Koch  
Director of Investor Relations

So we have one more before we break. Over here. To the -- yes.

Christopher Mark Evans  
Goldman Sachs Group Inc., Research Division

This is Chris Evans, Goldman Sachs. Just curious, the transportation and semiconductor tech, some of your biggest sources of revenue of at company, just curious how you get comfortable with some of these cyclical end markets? And in your product categories, you view GDP-plus growth almost in every one of them. So just curious, what do you see underlying in your growth and the ability to avoid volatility with your customer base?

Marc C. Doyle  
Chief Operating Officer of Specialty Products Division

Yes, I mean, as you said, we have a significant exposure to automotive, significant exposure to semi, smaller markets for us that's still significant, construction. Say, you can never remove yourself from the cyclicality of these big industrial markets, but we do a pretty darn good job focusing on the parts of these markets where there's transformation happening. And automotive is a great example. Even as auto builds have tailed off a bit this year in terms of the growth rate, we're still seeing low double-digit growth in our sales into automotive because most of what we're selling into is light-weighting and electrification, and these types of trends that are growing way above auto builds fundamentally. And semiconductors is a similar story. We focus on the areas with our portfolio where there's high-growth opportunities within these larger markets. And that provides us a little bit of a buffer, or even a significant buffer in the case of auto, against the cyclicality of the end market itself.

Lori Koch  
Director of Investor Relations

Okay. So thanks for all the great questions and attention. We're going to take a quick break now. There's coffee and tea will be available out in the hallway. Come back at 10:00 and we'll get started with the business segment presentations.

[Break]
Presentation

Marc C. Doyle
Chief Operating Officer of Specialty Products Division

Okay, are we ready to hear from the business presidents now? I think this will get everybody fired up again. So in addition to providing an overview of the exciting portfolios we've got here in each of the businesses, you're going to hear a little bit about the strategies and sources of competitive advantage as well as a few innovation highlights. So let me just do a very quick intro in order of the presentations today.

First, let me introduce Randy Stone. Randy is a former Dow, Arkema and DuPont leader. He's also had a stint in DuPont's Investor Relations team. So some of you may recognize him from that time. And he is now running our Transportation & Advanced Polymers business. Next up after Randy will be Jim Fahey. Jim started his career in IBM, followed by working at Shipley, Rohm and Haas, and Dow, and he is now leading our Electronics & Imaging business. Third, we have Rose Lee. Rose started her career at United Technologies. She spent time at Saint-Gobain before coming to DuPont, and she's running our Safety & Construction business.

Fourth, we have Bill Feehery. Bill worked at BCG originally and then came to DuPont, ran a number of our electronics businesses before moving over to lead our Industrial Biosciences business. And fifth and batting cleanup today, will be Matthias Heinzel. Matthias started his career with McKinsey. He worked in the telecommunications industry for a number of years before he came to DuPont. He led various businesses across DuPont and he's now responsible for our Nutrition & Health business. So we'll have of them give their presentations and then I'll join them on stage; we'll do a Q&A with the whole group. So save your tough questions, please. And so now let me turn it over to Randy Stone. Randy? Thanks.

Randy Stone
President of Transportation & Advanced Polymers - Specialty Products Division

Thanks, Marc, and good morning, everyone. So great to be with you today. And I'm really pleased to have this opportunity to showcase our Transportation & Advanced Polymers business, and really have an opportunity to highlight the attractive and growing set of market opportunities in front of us.

On a personal note, I'm really grateful to share some time again with the investment community and see old friends. As Marc said, prior to my current role, I did work in Investor Relations for 3 years. And that experience really played a significant role in shaping my management philosophy. The lessons I learned are evident in our strategy that you'll see today. And you'll see it in the tremendous progress we've made in the past 3 years to accelerate our earnings, deliver higher adjusted EBITDA operating margins, while increasing the intrinsic value of our business.

Consistent with this approach, I can personally assure you that we'll maintain a disciplined focus to ensure the resources we deploy and the dollars we invest are designed to maximize shareholder value. Slide 2 highlights the progress we've achieved towards our goal to be the most innovative and valuable solutions provider in our space. Since 2016, the T&AP portfolio has delivered consistent best-in-class financial results, and we're on track again to deliver record earnings in 2013 -- 2018. With a focus on clear strategic choices and strong execution, we've delivered compound annual growth rates of 12% for revenue and 20% for adjusted operating EBITDA over the past 3 years, which includes our current expectations for 2018.

During this period, we also increased our adjusted operating EBITDA margins by over 360 basis points and earnings per employee by approximately 80%. Compared to year-end 2016, adjusted operating EBITDA is expected to grow by over $500 million in 2018. We've achieved these exceptional results by focusing on 2 key drivers.

First, we've taken full advantage of our redesigned portfolio to leverage our innovation leadership. And now, 95% of our product line is specialty or custom formulated. We're increasing capital investments in these high return businesses to fuel our growth in areas such as auto electrification, 5G and health care.
Second, we’ve accelerated growth in Specialty Products with record sales in performance polymers along with automotive adhesives and specialty silicones. These products combined have delivered double-digit annual revenue growth since 2016, fueling our step-change in margins and earnings. The growth in our advantage product line has also provided an opportunity to realize higher prices, positively impacting our earnings and our margins. Today, we enjoy leading positions in our targeted markets and have about 3,000 customer development projects in our pipeline. With a steep reservoir of opportunities, we can strategically deploy our resources to accelerate growth in key markets, ranging from aerospace, to health care, to semiconductors. Our pipeline and track record of double-digit top line revenue growth fuels our confidence and reinforces our commitment to consistently outperform our market proxies.

With that overview of the drivers of our performance, I want to provide some highlights and metrics on Slide 3. In 2018, we anticipate revenue of approximately $5.7 billion, a double-digit top line growth achievement for the third consecutive year. And we anticipate full year adjusted operating EBITDA margins of approximately 29%, up nearly 300 basis points from last year on a pro forma basis. Geographically, you can see our sales are regionally balanced, and Asia today is our largest and fastest-growing region with just over 40% of our estimated 2018 sales.

In the center of the slide, you can see we have strategically designed portfolio with the legacy of product leadership positions in performance solutions, performance resins and engineering polymers. And we deliver growth by leveraging our market-leading positions, our innovation capabilities and our specialty product portfolio.

Turning to Slide 4. You can see we've got 3 strong global businesses: performance resins and engineering polymers are comprised primarily of high-performance polymers; while performance solutions is a collection of specialty, high-margin businesses focused on silicones, adhesives and specialty parts. Across our business lines, our capabilities and products are differentiated and unique.

If you look at performance resins, for example, we're the only producer in the world of Vamac, a high-performance elastomer, which has consistently delivered double-digit growth for over a decade. In polyester, our Delrin brand is a clear performance leader. And we've got global leadership positions in Hytrel, which is a high-margin elastomer with applications including electronics and consumer goods.

In engineering polymers, our Zytel polyamide business is also differentiated versus our competitive set. First, we only produce polyamide 66 high-temperature and specialty nylonos with a focus on the development and supply of compounded engineering plastics. These tailored materials enable our customers to solve the most demanding applications while delivering strong returns on capital for investors. By design, we do not produce fibers and we do not sell polymers into the fiber markets. So we're aligned exclusively with high-growth advanced material markets.

Second, to deliver a high return on net assets and to leverage are sourcing options, we're not backward integrated in the capital-intensive monomers or the intermediates required to manufacture polyamides. Because of our scale and our purchasing power, we still retain security of supply, and we continue to demonstrate the best operational reliability in our industry. That reliability has been in clear focus the past 18 months as key suppliers have experienced significant supply shortages due to force majeures throughout the value chain. Our ability to run at full capacity throughout this turbulent environment has been a true differentiator, cementing our reputation as the industry’s most reliable and dependable provider.

For engineering polymers, we plan target investments in the high-temperature and specialty polyamides to support our customers’ growth in key areas ranging from future mobility to electronics. In performance solutions, we have growth capacity investments in flight for our high-performance parts businesses, which include, along with medical-grade silicone for health care. And I’ll highlight those businesses in a few minutes.

Overall, we'll invest growth capital in areas with very attractive gross margins and above-market growth rates. And as I mentioned, we'll maintain a very disciplined capital allocation approach with the target CapEx investment of approximately 4% per year.
Turning to Slide 5. I'll now highlight the market trends that are helping fuel our success. We've more than doubled our growth rate the past 3 years due to our strong execution, but we're also benefiting from a portfolio that's strategically aligned with favorable market dynamics, including auto electrification, sustainability, connectivity and health and wellness. Our ability to provide a portfolio of lightweighting solutions to improve fuel efficiency or extend the range for electric vehicles is foundational.

In electronics, we bring material solutions for consumer markets, and we're a key development partner today in 5G. In health care, our specialty silicones focused with a broad engineering polymers portfolio has positioned us well to meet societal needs that are increasingly focused on health and wellness. We provide specialty silicones for medical devices, biopharmaceutical manufacturing and drug delivery systems. Together, our health care business is growing at more than 2x global GDP, driven by an aging population, greater access to health care and the rise of biopharmaceuticals.

Across each of these spaces, we're a valued innovator, and we're consistently growing faster than our market proxies. In these defined sectors, we forecast an addressable market above $25 billion, and we have targeted development programs to capitalize on these key growth trends.

On Slide 6, I want to showcase one of the most exciting growth opportunities and synergies we have in the emergence of future mobility. This chart highlights our DuPont solution set, which includes offerings in our Safety & Construction and Electronics & Imaging business.

There are 2 key takeaways from this chart. First, we forecast significant revenue expansion opportunities as our addressable market increases by over 50% as we transition from internal combustion engines to hybrid and electric vehicles. In ICE engines today, we estimate that our potential revenue per vehicle is approaching $200 per car. But that increases to $300 a car or more for hybrid and electric vehicles. This increase is driven by the fact that hybrids both utilize both traditional and electric powertrains.

In electric vehicles, we forecast additional growth opportunities for our adhesives and silicones and other products in the DuPont portfolio, including Kapton, Nomex and Kevlar.

The second key takeaway is that no materials company is better positioned to provide innovation and support this industry transformation. We are seeing a true convergence between materials and electronics, and that convergence is accelerating. DuPont's deep and broad materials expertise paired with our industry-leading portfolio in our Electronics & Imaging segment is unique. The transition to hybrid, electric and autonomous driving creates a higher growth trajectory for DuPont. With over 100 million cars in future production and potential revenue increasing by over $100 per car during this transition, this is a $10 billion future growth opportunity for the new DuPont.

To ensure we deliver on this opportunity, I want to highlight on Slide 7 a new DuPont initiative. In September, we formally launched an initiative called AHEAD to accelerate hybrid, electric and autonomous driving at the opening of our Silicon Valley technology center. As you see on Slide 7, our strategy is to provide an integrated and holistic solution set that leverages our expertise and capabilities throughout this value chain. From OEMs to the tier suppliers, we're helping the industry's key stakeholders navigate a complex, innovation-driven and capital-intensive transformation. While the industry is undergoing significant change, there are many performance needs that remain constant, including connectivity, lightweighting, thermal management, NVH and safety.

In the center of the column, you can see that there are several steps on the future mobility progression, and DuPont is well positioned in each one. Our engineering polymers and adhesives will play a critical role in all mobility platforms, and we see increased demand for adhesives and aramids in electrical vehicle applications. Our portfolio today includes high-performance, structural and elastic adhesives used in advanced lightweight aluminum and composite-body vehicles as well as thermally conductive gap-filling adhesives for high-voltage batteries. We provide silicones, especially lubricants, to reduce noise, vibration and harshness. And we supply industry-leading solutions for battery separators and motors from our Kevlar and Nomex brands in our Safety & Construction segment.
Finally, our deep portfolio of electronic materials within our E&I business will generate additional revenue from products that enable the creation of superfast, thermally efficient computer chips and circuit boards and materials for dashboard displays.

On Slide 8, I want to highlight an innovation example in a different part of our business, our high-performance business. Kalrez and Vespel have been an important and growing part of our success over the last 3 years, with annual sales approaching $600 million. These products are unique because we're a fully finished part further down the value chain where performance properties, quality and specifications are very demanding and extremely difficult to replicate. Kalrez specialty sealing business consisting primarily of custom O-rings and parts that enable superior results in critical applications like semiconductor production, mechanical seals and flat-panel displays. We individually inspect every part, hand-package and ship orders via overnight delivery to ensure traceability and ultrafast and responsive logistics. These materials are designed for the harshest and most demanding applications, and Kalrez is chemically resistant to over 1,800 chemicals and can withstand temperatures up to 325 degrees C.

Over the past 3 years, it's delivered an average top line growth of 12%, driven by strong electronics demand, extensive customer relationships and a deep commitment to our customers. Looking ahead, we forecast revenue growth of about 10% annually over the next 3 years. And we're building a new state-of-the-art plant in North Delaware, with expected mechanical completion at year-end 2020. Overall, Kalrez is one of the highest-margin and fastest-growing products in our portfolio.

Vespel is a brand of customer -- of custom-engineered parts that address our customers' most challenging wear and friction issues. Applications include aerospace, electronics and multiple industrial uses. Vespel is a nonmelting engineering plastic that's dimensionally stable up to 700 degrees C and competes with high-end materials like PEEK. Over the last 3 years, it's delivered an average top line growth of 12% per year, and we forecast revenue growth of 8% annually over the next 3 to 4 years. This growth, in part, is achieved through broader use in the newest environmentally friendly aircraft engines, and we are increasing capacity to meet our short- to long-term growth plans.

On Slide 9, let me invest a moment to update you on our synergy efforts. We believe no other company today has our combination of performance polymers, adhesives, silicones and high-performance parts. And that combination allows for new growth synergies. In the past year, we've identified additional revenue pathways as we leverage adhesives and engineering polymers capabilities to deliver new lightweighting solutions. Silicones and Hytrel combinations for wearables and consumer goods and Vespel and Molykote silicone lubricants for applications requiring improved wear and friction properties. We're at the early parts of our development and scale-up process, but we are confident in our ability to deliver growth synergies from this redesigned portfolio in the coming years.

In terms of cost synergies, our productivity efforts have been extensive. We streamlined our organizational model, and we implemented digital and reliability initiatives do deliver improved productivity. Our digital supply chain programs have enabled working capital savings while improving our global service capabilities. Our manufacturing reliability programs have paid significant dividends by increasing capacity through higher yields and improved uptime.

At our Delrin plant in West Virginia, for example, these programs yield a nearly 10% capacity increase, which allowed us to increase revenue and improve our customer service levels. Across our manufacturing network, we've implemented best practices from both Dow and DuPont to drive manufacturing productivity while consolidating locations to reduce redundant capabilities. Our redesigned organizational model has driven speed and efficiency, and the results have been important to our financial success.

In 2018, our segment sales are forecasted to be over $1 billion higher than 2016 on a pro forma basis. And our SG&A and R&D expenses are expected to be reduced by over 300 basis points. Looking forward, we're confident in our ability to deliver or exceed our year 1 and year 2 synergy commitments.

On Slide 10, you can see the financial progress we've achieved the past 3 years, with 12% top line and 20% adjusted operating EBITDA CAGRs and a 29% EBITDA margin. Our strong performance paired with our portfolio redesign has repositioned our business. We're consistently delivering premium financial
performance with revenue growth well ahead of market and industry proxies. More importantly, we have a clear plan to continue our superior performance while increasing the intrinsic value of our business.

Looking ahead, our strategic drivers are clear. We'll differentially focus on our high-growth, high-margin portfolio; extend our innovation and application development leadership; maintain a disciplined capital investment plan; and we will plan to actively manage our portfolio to maximize returns and drive shareholder value.

In summary, T&AP has delivered on every important financial metric the past 3 years, including revenue growth, earnings and margin. Our aim is to deliver a top line growth at 1.5x GDP while delivering earnings leverage at a minimum of 1.5x our revenue growth.

Overall, I'm proud of our results but never satisfied. We have significant innovation and product differentiation in our business, and we're confident in our future success.

I appreciate your attention. And let me now turn it over to Jim Fahey, the President of the Electronics & Imaging business. Jim?

James T. Fahey
President of the Electronics & Imaging - Specialty Products Division

Thank you, Randy. Thanks again, Randy. Good morning. I'm excited to share with you the activities of our Electronics & Imaging business. As a result of the merger between Dow and DuPont, our Electronics & Imaging business is now the most comprehensive electronic material business in the industry. Together, we have the right technologies, the right expertise and the capabilities to fully capitalize on the growth opportunities of this rapidly changing electronics industry. We're uniquely positioned to address the complex material challenges our customers face and often bring more quickly differentiated products to market.

On a personal side, I've been fortunate to have spent pretty well all of my career in the electronics industry, running numerous businesses and functions at IBM, Shipley, Rohm & Haas, Dow and now, DuPont. Also spending countless hours around the world, especially in Asia, building relationships with key semiconductor customers. I look forward to leveraging the best of this new business to help our customers create future generations of incredible electronics.

Beginning on Slide 12. Our long history and commitment to the electronics industry is rooted in innovation and very, very close relationships with all of our customers, all of which are supported by a global presence and world-class manufacturing. With the newly merged organization, we will continue to build on these strengths and be at the front end of change within our industry. Our customers are already recognizing the depth and the breadth of our expanded portfolio as well as our unmatched materials integration capabilities, both of which are increasingly important given the rapid changes facing our customers today.

We expect to continue to strengthen our leadership position based on 3 key pillars. I'd like to take a closer look at each of these. The end market demand for electronics is indeed robust, multifaceted and centered on connectivity. Market trends such as smart cities and homes, 5G, artificial intelligence, Internet of Things, the autonomous vehicles you've heard Randy talk about earlier, urbanization and health care are all enabled by electronics. They're all accelerating simultaneously and, equally important, are driving even greater need for electronics and specialized materials. With our portfolio, we cover many of the advanced material needs across most critical processing steps that support the entire value chain, from making the transistors and integrated circuits, substrates, displays and several other active and passive components for manufacturing the final system. In fact, our materials enable the manufacturing of 95% of today's smart devices.

To capture growth in the most attractive markets, we have increased our strategic and business development activities to create a pipeline of growth opportunities. Our R&D activities are aligned with our long-term growth strategy, and we have targeted, disciplined investment plans in place to ensure we successfully enter these high-value markets. At the same time, we're also leveraging growth synergies across our entire business, which I'll talk a little bit more about later.
Our point of differentiation shows up not only through product innovation, but in being able to support our customers with these integration of complex materials. New applications require novel materials, and the semiconductor in particular is driving towards new architectures. Our extensive portfolio, vast experience gives us a unique understanding of how these materials interact. This integration of materials becomes a tangible source of advantage for us because it gives us a capability to move beyond just the design of simple molecules and processes to become key design partner with the leading OEMs. It brings significant value to our customers because many challenges can be eliminated before they even enter the customer processes.

Early feedback from our top partners has been highly positive, with engagement increasing as they start to see the power of our application development skills and the richness of the portfolio. We believe that no other material supplier can offer this design expertise that customers are demanding today.

Finally, given the higher concentration of electronics in Asia, which is quite characteristic of the semiconductor industry, we continue to expand the footprint, thereby bringing manufacturing and R&D activities closer to our customers. In fact, we just concluded expansion in Taiwan for our CMP pads, increased our manufacturing for our semiconductors and display activities in Korea and added additional headcount such that, at this point, more than 50% of our R&D resources are now located in Asia. We continue to see our presence in Asia as a key success factor for our business.

Let me now provide a little more color into the E&I business on Slide 13. As I mentioned a few minutes ago, we believe there's no other single company that can offer the portfolio we now have in Electronics & Imaging. We hold leading positions in Advanced Materials for critical processes and product development, including semiconductors, circuits, photovoltaics, displays and advanced printing technologies. We are enabling the manufacturing of electronic systems and devices across all key market segments, from industrial to communications, consumer, data processing, automotive, military and aerospace. In 2018, we expect adjusted operating EBITDA margin of 39% on a revenue base of $4.8 billion. We are differentiated from competitors by our leading product portfolio, our deep level of customer intimacy and now by our more extensive ability to support materials integration and design expertise.

This combination of factors open doors for us. Customers need to partner with scientists and engineers and designers who understand broad material sets, who can design materials to work better together and who can dramatically reduce their time-to-market. These capabilities coupled with continued investments to enhance our broad portfolio are enabling our work to gain leadership positions in key growth markets and drive the growth of our business in an efficient and highly profitable way.

As shown on Slide 14, our product mix is led by Semiconductor Technologies, which accounts for over 1/3 of our overall revenue. We provide the chemistries, materials, processing technologies that helps our customers transform their silicon wafers into finished semiconductors devices. Our technologies are enabling many of the critical processing steps in device and system manufacturing, all the way from patterning, polishing, to robust interconnects as well as technologies to address assembly and thermal challenges. About 1/4 of our sales are from interconnect solutions as we provide and sell materials that process the chemistries to construct complex circuit printed boards for advanced electronic devices.

Another roughly 1/4 of our sales come from photovoltaic materials, where we provide the backsheet films and metallization chemistries to create photovoltaic cells and modules, along with thick film paste, enabling new innovations in power modules, wearables and in circuitry.

Advanced printing, which comprises 11% of our revenue, brings a set of elastomeric photopolymers and inkjet materials for consumer and professional packaging, printing applications. Besides materials, we offer workflow solutions for quality optimization, productivity and sustainability.

Our display technology business, which brings in about 5% of our revenues, offers solutions for richer, more vivid colors, which are critical requirements for electronic displays. Our flagship technology is our OLED solutions, which are advanced materials that enable the most vibrant color displays and reduce power consumption. Today, OLED is used in smartphones, smartwatches and high-end TVs. We see these
advanced materials expanding to other form factors as consumer expectations rise for clarity and color in displays, such as in the automotive market.

Turning to Slide 15. The world is changing in ways we never imagined before and at a pace that is accelerating every day. Connectivity rules the day, and greater functionality and speed are paramount to this digital transformation. Connectivity, artificial intelligence, autonomous driving and 5G, which I’ll talk a bit more about later, will continue to transform many industries, bringing new opportunities and specialized material needs. We see these as key market developments, driving the interest in our existing portfolio and the need for more advanced materials.

For example, connected devices and smartphones, smart light, digital assistants, surveillance cameras will all have to be able to talk to each other more efficiently in real time and stay connected all the time. And environmental considerations are driving increased adoption of renewable energy. Automotive electrification and initiatives in smart cities. These and other developments drive a wide range of significant opportunities across multiple parts of our business, including in semiconductor devices and system manufacturing across the entire infrastructure, from edge to the cloud, from wearables to autonomous driving and smart cities, along with interconnect solutions for superior connectivity for consumer devices, automobiles, cloud servers and 5G communications. Not only do we have many of the highly engineered materials customer needs, we can produce them on time with a robust quality and at large scale. This level of supplier reliability is another considerable advantage for us.

Moving to Slide 16. Let’s look at a few of the high-growth areas, which have already started developing, creating new opportunities and challenges across the entire supply chain. IoT, connectivity and artificial intelligence are expected to grow at better than 20% annually over the next 5 years. Some of our key material and strengths we will leverage to further increase our presence and market share in these high-growth segments are integrated circuit and advanced packaging materials, flexible and foldable films for substrates and displays, technologies to improve performance and decrease power consumption and thermal management solutions. All of these major applications and big data will require a new 5G infrastructure. The infrastructure build-out of 5G, which is the fifth generation of telecommunications protocol, is an ongoing development. And it is a key component of our long-term strategy. 5G is expected to significantly expand connectivity needs and enable a wide range of applications. It will allow for real-time instantaneous connections, which are critical to the advancement of application such as autonomous driving and overall enhanced connectivity. Smartphones with 5G capability will enable download in seconds, no longer minutes.

Changing over to 5G technology requires key technologies in the area of high-reliability circuits, low-latency high-speed frequency, high-resolution displays, low loss to electrics, power integrity as well as thermal management. We will leverage our current portfolio in this market together with additional investment in future innovation.

Combining the electronics business of DuPont and Dow has resulted in more solutions to bring to our customers as shown on Slide 17. We are leveraging heritage business relationship to increase sales of existing products as well as to integrate heritage technology programs to build new advanced solutions. And we track our cost and growth synergies on a quarterly basis.

Let’s look at 4 synergy examples. We’ve seen a great synergistic growth with our CMP technologies from Dow with EKT -- EKC technologies from DuPont. In this case, the growth is based on investment and localization in Taiwan and Korea and from leveraging customer and market channels to increase our sales. Our work is well underway to gain additional growth from this synergy. This will also be a great opportunity to increase our sales of lithography materials. With our Kapton product, we have a very good example of a dry film material with properties that can be applied across several applications. Leveraging our market channel combined with our ability to provide design expertise to our customers will lead to an increase in sales of this material.

For example, we are able to partner with one of our key heritage Dow OEMs to adopt this heritage DuPont technology material because of the design architecture we actually proposed. This is actually quite unusual since typical OEMs are the ones that design a product and provide only the material requirements to their suppliers.
You have heard me mention several times now 5G. We’re developing a highly differentiated dielectric material, which is well suited for 5G and advanced substrates, used for high-end processors. For successful application of this material, integrating the dielectric with the metallization and surface treatment processes is going to be absolutely critical. Our internal expertise in these chemistries combined with our capacity availability for producing this material on larger volumes has strongly increased the interest in this material.

And lastly, we have formed a team that is looking into smart infrastructure. It’s expanding across DuPont enterprise as the external market recognize the value of connectivity in the space. We are uncovering opportunities for both electronics and nonelectronic materials that can be applied for the development of buildings and construction platforms of the future.

Growth and cost optimization will also be key. We’ll be focused on achieving increased earnings by leveraging business relationships, developing new technology, optimizing capacities available as a result of our merger, rightsizing the new business and outsourcing manufacturing to address any potential market volatility.

Finally, on Slide 18, we have plans in place to drive both strong top line growth and bottom line growth. Sales growing at a roughly 6% CAGR from $4.3 billion in 2016 to an expected $4.8 billion in 2018. Stronger growth in semi, interconnect and display, partially offset by slower growth in photovoltaic and advanced materials and advanced printing. Year-over-year sales growth in 2018 is negatively impacted by the divestment of our display films business. Excluding this, we expect sales to be up approximately 2%.

Adjusting -- adjusted operating EBITDA growth at about 14% CAGR from $1.4 billion in 2016 on a pro forma basis to an expected $1.9 billion in 2018. We’re delivering strong volume growth through innovation and extensive customer relationships, coupled with cost synergies and increased equity earnings. Adjusted operating EBITDA margins expand from 33% in 2016 to 39% in 2018. Our advantage product portfolio, stronger growth in higher-margin segments, increased equity earnings and cost synergies are all contributing to our margin expansion.

Looking at the medium-term outlook. Our expectation, which is validated by a number of external studies, is that our market drivers, including auto electrification, artificial intelligence, IoT, 5G, cloud computing, will all support a 1.5x GDP growth over the medium term and likely beyond. We will continue to work with customers to bring the most complex technology road maps to life, to leverage our partnerships with key OEMs and our unique ability to offer integrated solutions to lock our materials in early in the design phase and move on. We also plan to continue to increase operating margins, driven by new innovative products being introduced at higher price points, coupled with cost-reduction initiatives.

In conclusion, with these combined technologies, expertise and capabilities, we now have both within the Electronics & Imaging business as well as across the entire new DuPont, we fully expect to continue to be innovative -- to be involved in this innovative-driven market and capitalize on the growth opportunities I spoke about here today. I’m very confident in the future growth of this organization.

With this, I would like to thank you for your attention and hand the microphone over to Rose Lee, President of the Safety & Construction segment.

Rose Lee
Former President of Protection Solutions

Thank you, Jim. I’m very pleased to be here today to share the exciting Safety & Construction story. I’m privileged to lead a business that is steeped in deep heritages of both Dow and DuPont. We are the stewards of the most iconic brands, synonymous with enduring quality and trust.

On a personal side, although I’m a less than 4-year-old DuPont-er, I have been in the materials and building space for over 20 years. During those pre-DuPont years, I looked up on the names such as Tyvek and Kevlar as innovation benchmarks to be admired. I now have the opportunity to lead an organization that encompasses these renowned brands and, furthermore, shapes them into even more powerful, faster-growing businesses. I’m extremely excited to be part of new DuPont leadership, to be the makers of new as our new DuPont logo exemplifies.
Now I will start on Slide 20, which describes Safety & Construction's key attributes for creating solutions to meet life's most essential needs in water, shelter and safety. Our credibility is based on a track record spanning several decades, the capability to work with channel partners globally while serving the end customers locally. To further strengthen our market leadership, we're investing in high-return new capacities, such as Tyvek's new [line 8]. We're also simplifying our processes and adopting agile methods to accelerate delivery of new innovation to the marketplace. I will share a couple of examples in the future slide.

Our product and process technology platforms, our hero brands and broad range of partnerships are truly the best in water, shelter and safety space. These capabilities, which can only be built with demonstrated performance and trust of our partners over time, are our enduring differentiation. In addition to our strengths, we're focused on the most important actions that accelerate our growth and expand our margins. Our recent success with pricing actions take advantage of favorable supply-and-demand dynamics in certain market segments and reflect superior value and use of our differentiated solutions.

We're also making moves to strengthen our portfolio, for example, with the divestiture of the European Styrofoam business currently in progress. We're also ultra focused on improving the reliability and productivity of our assets to support our growth and to ensure our competitiveness. Several highly experienced strong operational leaders who recently joined our ranks are enabling us to accelerate our asset performance improvements. Asset lighting is also a key lever for improving our margins. We are outsourcing parts of our operations and supply chain where more cost effective, robust solutions exist on the outside.

For example, we have established strong external partners for some of our aramids monomer production. We've also outsourced utility management, such as water and power generation, at our large Richmond, Virginia site. Such actions enabled us to expand our Kevlar gross margin by over 900 basis points in 2018.

Safety & Construction is a global business with full year 2018 expected revenue of $5.5 billion and strong EBITDA margin as shown on Slide 21. We have 7,000 colleagues around the world in commercial, innovation and operational roles, serving our customers locally while leveraging our deep global capabilities. In this context, Safety & Construction is managed with a global line of business structure with general managers clearly accountable for delivering the P&L goals and strong returns on our investments. With 42 manufacturing locations effectively covering the globe, we will relentlessly look for ways to simplify our footprint and improve productivity.

In the last 2 years, we exited 2 high-cost structure Kevlar sites that contributed to the margin improvement mentioned previously. When we divest our European Styrofoam business at the end of this year, we will exit 6 sites, and our operating margin for the building business will improve by 500 basis points.

The 1,200 people Richmond, Virginia site previously mentioned is the largest in new DuPont and is another example where we're making significant operational improvements. We have a new site leadership team comprised of strong manufacturing leaders from both inside and outside the company. The new team very recently completed negotiating a union contract that will enable us to significantly reduce site costs and install cell-based high-performance teams.

Safety & Construction has a well-balanced business portfolio that, in turn, enables us to serve a diverse set of market verticals. To give you a feel for the level of our diversification, when we say Kevlar, which is part of our aramids business, people automatically associate ballistic protection vests, which, of course, is very valid. However, you may be surprised to know that only 20% of Kevlar revenues are in the light protection space. The remaining 80% are in aerospace, automotive, personal protection and consumer goods.

As a second example, when we say Tyvek, people automatically think house rep, all those houses you see under construction with gigantic DuPont Tyvek written all over it, which we like very much, by the way. However, you may be surprised to know that only 25% of Tyvek revenue is in the building envelope space. The remaining 75% is in protective apparel, medical and graphical packaging and consumer applications.
In water, we are the only player with a full breadth of offering in ultrafiltration, reverse osmosis and ion exchange resin exchange technologies. Our scale and depth of expertise in modern filtration technologies enable us to create a wide range of solutions from large industrial site installations to portable home-use filtration modules. What all these various solutions have in common is the performance and quality of our offerings created with the expertise of our 7,000 colleagues and backed by our unique brands. Our goal is to continuously increase the speed and scale of impact by simplifying how we serve our customers and making smart choices in how we spend our time and money.

For example, we currently have 110 highest-priority innovation projects in Safety & Construction, which are rigorously managed with a combination of stage gate and agile methods. When a project is either and successfully completed or killed, we activate the next on project in queue. In this way, we ensure that the highest-impact projects are well resourced and executed with speed. In 2018, 28% of our revenue will come from new products created within the last 5 years.

Now let me take you through a bit more about each of the Safety & Construction specific lines of businesses on Slide 22. The aramids business is comprised of Kevlar and Nomex technology platforms, highly engineered polymer fibers that are extremely strong and heat resistant. Our military, law enforcement and firefighters rely on our technologies to keep them safe so they can save our lives. Operators in industrial factories, oil rigs and electrical utilities all depend on Nomex garments to provide comfort and protection from the hazards of their work environment.

As a completely different example, to give you appreciation for your new favorite airline cabin space, the bulkhead, the overhead storage cabin, the flooring all have Nomex and Kevlar honeycombs for the structural integrity and fire resistance with the lightest weight possible. I'm sure you will now never have looked at your bulkhead in the same way again.

In serving the construction space, we have a range of solutions that enable energy efficiency and moisture management of homes and structures, backed by the power of our building science teams. Our Corian Design solutions, with increasing range of material choices enable designers to bring together form, function and aesthetics for both interior and exterior buildings. Next time you are in Mumbai, India international airports or Naples, Italy high-speed train station, just to name 2 examples, take a look around and you will see that Corian surfaces are used to create beautiful spaces.

Our Tyvek enterprise delivers numerous protective solutions, some life critical. Some of you may recall the images of Ebola virus fighters on the cover of Time magazine some years back. The white garments the workers are wearing is made of Tyvek and are critical for keeping the workers protected from the virus.

Another protective application is in medical packaging. The medical devices in hospitals that we trust to be clean and sterile are often packaged with Tyvek until the point of use. Tyvek material attributes are quite distinctive. In one direction, the material breathes, while in the other direction, the material acts as a barrier. This unique combination inherent in the nonwoven structure of Tyvek makes it very difficult and expensive for other not-in-kind competitors to emulate.

Finally, water solutions full suite of technologies, ultrafiltration, reverse osmosis, and ion exchange resin literally provides essentials of human life. There are over 1 billion people in the world today without access to clean water. Our technologies and our colleagues are an integral part of addressing this global challenge. Our applications range from residential water filtration modules to industrial wastewater treatment to desalination plants. Our installations of such systems already process 25 million gallons of water every minute. That's a lot of water.

In addition, bioprocessing is a strong growth area with extremely high value and use and low price sensitivity by the pharmaceutical customers. As a leader in our space with unmatched brand promise of film tech, water solutions is one of our highest-growth businesses.

Now moving to Slide 23. Two global market trends underpin our growth in water, shelter and safety. First, sustainable development is no longer just an advanced country communications agenda. The need for sustainable sources of clean water and energy are global imperatives to lead future generations with a better world. Second, the need to protect lives from harm and various forms of threat is intensifying.
For example, safety for the industrial worker is often the paramount core value in leading industrial companies as it is in DuPont. Emerging economies also are also increasing investments in worker safety. Governments are establishing stronger policies and enforcing regulations. And private enterprises are spending more money to keep their workers safe. Such underlying trends create large addressable markets that are core to S&C’s purpose and capabilities.

In total, Safety & Construction addresses approximately $51 billion, comprised of several key market segments. Our offerings have in common the themes of sustainability and protection. Our customers often pay more for our solutions because of our quality, performance, differentiated functionalities and brand. Our innovation leadership, evident in the breadth of offerings, positions us well to grow in excess of GDP growth rates. We are building on our leadership by focusing new investments in market subsegments and technologies where growth is the strongest.

Now I'd like to share 2 such examples of new solutions in high-growth markets in Slide 24. First is FILMTEC reverse osmosis residential filtration module. In China, the large and growing affluent population is demanding reliable and convenient clean water in their homes, which is fueling exponential growth in drinking water purification systems. As you might imagine, homeowners who have the means to install such systems value high quality, reliability and performance. And that’s where our FILMTEC brand promise comes in, which is synonymous with impeccable quality and superior performance. Asia Pacific region is already the largest and highest-growing region for our water business, and the residential water purification market is one of the fastest-growing subsegments. We're investing in new products and talents in the region to strengthen our leadership in this important growing market.

On the right-hand side of the slide, you see a picture of Tyvek 40L medical packaging, a new lighter -- lighter-weight product, developed to serve the growing medical device market in Asia. As an indicator of market growth in the region, from 2009 to 2017, 39% of new foreign direct investments in medical device took place in Asia. Tyvek 40L provides better strength and puncture resistance versus medical-grade paper at a competitive price. In addition, we deliver the Tyvek promise of moisture resistance, breathability and broad sterilization compatibility. Just as aside, if I were a patient in a hospital, I would feel much better if the medical device being used on me came out of a Tyvek package. You might want to check that out, by the way, next time you have the opportunity. But just to be very clear though, I’m not wishing you a hospital visit, not even for more Tyvek sales.

We developed the 40L product by working with our Asia Pacific value chain partners. The new patent-pending finishing process for 40L enables us to achieve the market desired product attributes and strong product margins. Such new solutions are fueling Tyvek's growth, and we are meeting the market demand by expanding our capacity with a new [ line 8 ] investment.

One final example I would like to share with you are the synergies that are created by combining Dow's building business with DuPont Tyvek's building envelope business in Slide 25. The combination of 2 portfolios under 1 management structure has enabled us to strengthen our business in 3 important ways. First, our product portfolio has broadened significantly to address thermal, structural, air sealing and weatherization solutions. Bringing together our building science teams have enabled us to bring over 9 major product families to the marketplace.

Second, we have been able to build out a stronger distribution and dealer network that combines the strength of Dow's insulated product in the commercial space and Tyvek's building envelope in the residential space. We have more deeply penetrated select markets by adding 25 new strategic dealer locations. In addition, heritage Dow's GREAT STUFF, a polyurethane foam family of products, a name that may be familiar to the weekend warriors out in the audience, has a very strong presence in the do-it-yourself retail channel. We're leveraging the strong presence to strengthen our relationship with the big-box retailers Home Depot, Lowes and Menards for our Tyvek solutions as well as Corian Design.

Finally, the power of the combined building science teams is enabling new innovations in energy efficiency, construction productivity and smart sensing functionalities.

Let me close by giving you a snapshot of our performance trajectory and where we are headed in Slide 26. Over the past 3 years, we have delivered a strong performance and accelerated our top line growth
significantly. We expect to deliver $5.5 billion in revenue and 25% adjusted operating EBITDA margin in 2018. With the combination of historical Dow and historical DuPont businesses that have now come together to become Safety & Construction, we’re even better positioned to build on our strong customer-focused market leadership. We will increase our customer impact by accelerating innovation, investing in high-return new capacities and increasing the speed of execution. At the same time, we will drive operating leverage through -- even further through differential pricing, portfolio actions and ongoing gains in asset reliability and productivity. We're pleased with our performance today, and we are confident that our innovation and productivity efforts in flight will result in even more top and bottom line growth.

Our teams have embraced a culture of speed, smart risk-taking and results to further strengthen our leadership. Our purpose and our capabilities compel us to be an important and integral part of solving the world’s essential challenges in water, shelter and safety.

Thank you, and now let me turn over to Bill Freehery, President of Industrial Biosciences.

William F. Feehery  
President of Industrial Biosciences

Thanks. Thank you, Rose, and good morning. I'm William Feehery, and I'm excited to share with you the growth story of Industrial Biosciences or IB as we call the business for short. The Nutrition & Biosciences segment of DuPont consists of 2 businesses, IB and Nutrition and Health. I'm going to cover IB and then I'm going to turn it over to Matthias Heinzel to cover his business, Nutrition and Health.

I've had an exciting career with DuPont for over 15 years. First, I managed a succession of innovative and growing businesses in the current E&I segment, including our solar business, and for the last 5 years as President of IB, during which time we've expanded the business to over $2 billion in sales and delivered many exciting products and technologies.

The core of IB is our significant investment in biotechnology R&D, which we aim at many, many industrial uses. We have hundreds of researchers working with the latest gene editing techniques like Cas/CRISPR, robotics labs collecting millions of the data points, protein engineering and using the latest in 3D visualization and lots of investment in big data.

Outside of our technology investment, we leverage the general advances in biotechnology that are happening in academia and in the pharmaceutical industry. Biotech is advancing really rapidly, and we do some really cool science here. But much more importantly, we have a very successful track record of turning that science into real products that are critical across a lot of end markets and have created a very impressive business.

Beginning on Slide 28, IB harnesses the power of biotechnology to reduce or replace traditional chemicals in a broad range of markets and applications. Our business has a long lineage, which goes back to Genencor, Danisco, Rohm and Haas, Dow, and of course, DuPont. The success of IB is built on 3 pillars.

So first as I mentioned, we have a strong innovation engine in terms of the people, capabilities and output. We invest in a large and very successful R&D engine, and we're capable of inventing brand new molecules, genetically engineering microbes to make those molecules, developing a manufacturing process, obtaining regulatory approval and moving them into mass production, in some cases, in as little last year.

In 2018 alone, we're on track to have launched over 50 products, almost 1 a week. Now some of them are variations, blends and formulations, but a substantial number of them are completely new to the world molecules. We also focus relentlessly on continuous cost improvement in manufacturing, particularly in our case, by improving what we call as the cell factory. So the cell factory refers to the chemical processes inside a microbe that we harness in our big steel factories in order to produce enzymes and other bio-based products.

We've engineered many proprietary strains of microbes that are designed to live only in our manufacturing plants, working for us. We continually reinvest in further engineering of these strains to improve their
productivity and benefit our bottom line. This kind of innovation I think is unique to us and has delivered significant margin improvements over the past several years.

And finally, we supply critical products to a really wide range of industries across the globe. So our results are diversified under -- over a number of end markets and regions. This diversity is a challenge for us, but it’s also a core advantage as we understand and become relevant to our customers. One way that we do this is our specialized application labs, where we work directly with our customers in animal nutrition, home care, grain processing, microbial control and food production, to give you a couple of examples. So these labs are used to help customers understand how to use and optimize our products in their processes.

So for example, we have lots and lots of clothes washing machines from all over the world to help us design laundry detergents. And we can run industrial ethanol processes to show how to optimize use of enzymes in large-scale fuel ethanol production.

We also actively hire people with deep expertise in these industries into our sales, marketing and technical groups. As a result, we hold either a #1 or a #2 market position in the vast majority of the market segments that we serve.

So turning to Slide 29. We expect to deliver $2.2 billion in net sales this year with a very strong adjusted operating EBITDA margin. Our revenue is well distributed across the world, with the majority coming from outside the U.S. Enzymes are the core of IB and the key driver of our overall margins and they account for about half of our sales, which are represented by the purple bioactive slice of the pie chart. We are 1 of the 2 largest global suppliers in industrial enzymes, and we sell into all of the industries where enzymes are used, supplying from our global manufacturing network.

As I mentioned earlier, we see a diverse range of markets where we have a leadership position and where biotechnology solutions have a long runway of growth due to continued advances in the technology and our ability to continue to advance microbes to deliver the performance we need.

For most of the customers in these segments, our products are a relatively tiny portion of their COGS but a very large portion of the performance of their manufacturing processes. Our investment in biotechnology and our ability to produce at large volumes cost effectively are significant sources of competitive advantage that allow us to win in the marketplace.

So let me tell you just a little about what this means. So we have teams that are constantly searching for unique proteins that are made by organisms that live in unusual environments. So for example, if we want an enzyme that would work in cold water clothes washing, we might look at microbes that grow in the Arctic. We then modify the amino acid sequences in these proteins to design and tune them specifically for our customers' needs. This is a really complex process, which uses labs of lots and lots of robots and generates massive quantities of data. We're at the forefront of the use of big data in our design of products.

Once we've got something that we think looks good, we test the product concepts in application labs which have similar equivalent to what our customers will actually use in their processes. And then we scale up manufacturing in our world-class manufacturing network. The ability to do all of this on a commercial scale with the right economics is a core competency for us, which very few companies in the world have achieved.

Perhaps a little less exciting but still important to talk about, another key competitive advantage for us is our regulatory expertise. We participate in increasingly regulated markets, whether it's animal nutrition, personal care or energy and water. Our regulatory organization allows us to navigate the product approval processes around the world and bring products to market as fast as possible. We like to take the burden off of our customers who value our high standards and trust our opinions.

I'll now spend a little bit of time talking about the 4 global businesses that comprise Dupont Industrial Biosciences on Slide 30. Our bioactives business produces enzymes, which act as catalysts in a wide range of applications. There are really 4 important markets for enzymes today where we have a significant presence.
Enzymes are critical ingredients in laundry and dish detergent to remove stains. They attack starches, proteins and fats that come from food. We work with all the global and regional suppliers and supply the brand names we all know. For example, one of our significant customers is Procter & Gamble. Enzymes have also been used since the dawn of time to help convert starch into ethanol. Our enzymes take that process to a completely different level, speeding the process of converting grain into fuel ethanol at economics today which are very competitive with gasoline. We supply a large portion of the ethanol plants across the world with enzymes, and very recently now, with genetically enhanced yeast strains that improve the conversion of sugar into ethanol.

Modern animal nutrition also relies on enzymes, which help optimize the absorption of nutrients from feed, and they reduce harmful animal waste like phosphorus. We supply enzymes to poultry, swine, aquaculture and ruminant growers all over the world, and we're leveraging our experience in probiotics in the microbiome to introduce solutions that promote gut health and helps in the industry moved away from the use of antibiotics in the human food chain.

And of course, human food production also relies on enzymes. We supply key bakery and dairy enzymes in collaboration with our colleagues in Nutrition and Health, and we have an expanding brewing enzyme portfolio.

Bioactives has delivered very high-quality earnings and continued margin expansion, driven by our focus on new products, our constant improvement in operational efficiencies and our expansion into the developing parts of the world. Our operating EBITDA margins for this business are at the very high end of our portfolio.

So second, if I turn to biomaterials, this was focused today on driving market adoption of Sorona, which is our bio-based polyester polymer that's used in carpet and apparel applications. Through our exclusive partnership with flooring leader, Mohawk Industries, Sorona enjoys significant market share in residential carpeting. Homeowners like the softness and the natural stain resistance, but it also satisfies a growing consumer desire for more sustainable materials.

We have also built a growing apparel business for Sorona. Brand owners like the softness but especially the stretch and recovery properties that Sorona brings. Sorona provides a wash stable method of imparting that comfort stretch to fabrics, and it's cost competitive with spandex. We've grown Sorona’s revenues in fabrics by 20% per year every year since 2015. But compared with the vast market for stretch fabric, we're still very small, less than 1%. So for that reason, we're really bullish on our continued growth prospects.

To serve this growing demand, we recently opened a new manufacturing line in our Kingston, North Carolina plant. This low-risk and high-return investment will allow us to continue to grow as our market penetration expands.

And there's more to come in our biomaterials pipeline beyond Sorona. We're developing other new bio-based materials that are poised to replace petroleum-based plastics and polymers in large markets like packaging and detergents.

Our biomaterials business has delivered steady earnings growth over the last several years as Sorona gains more traction in the apparel market. The business is focused on managing the impact of raw material costs and low-end competition to bring margins more in line with the overall IB.

Microbial control has recently joined the IB portfolio moving over from Dow. This business supplies a wide variety of active molecules, which prevent the growth of unwanted microbes. Microbial contamination is a risk anywhere that liquids are used or shipped as a product. We have the leading position in 2 of the most important actives that are used around the world, glutaraldehyde and phenoxyethanol.

Glutaraldehyde is used extensively in hydraulic fracturing for oil and gas production, and we are benefiting from the rebound in oil price and the continued expansion of U.S. oil production. Phenoxyethanol is widely used in the home and personal care industry in products like body lotion, shampoo and cleaners, where we sell to the same multinational customers and in concert with our home care enzyme business.
For microbial control, pricing discipline in a robust energy market have really boosted earnings dramatically over the past 2 years, and we expect further improvement as cost synergies will boost the business even further.

And finally, clean technologies is the world leader in technology for the manufacture of sulfuric acid. Sulfuric acid is one of the largest production chemicals in the world. It's used in the production of fertilizers and chemicals, oil refining and mining. Our technology has been licensed and is used in a vast majority of sulfuric acid and refinery alkylation units all around the world. We also have a very healthy business in aftermarket parts and catalysts.

Turning to Slide 31. We see ourselves as providing more sustainable solutions for which demand is increasing in many markets, but we don't believe that our mission is just to sell green products. Our products often do have a favorable environmental profile, but more importantly, they bring direct benefits to our customers.

So if I look at the global megatrends listed here, if I use our home care market, as one example, IB's products delivered direct benefits to the consumer in the sense of cleaner hygienic clothing at a good price. And we deliver indirect sustainability benefits in terms of using less water and less heat in all the washing machines.

So on the right, you can see that we're targeting some pretty substantial market segments with our product portfolio. Part of our strategy in IB is to continue to expand the size and the number of the end markets that we can address with biotechnology. For example, we believe that advances in the technology will lead to new solutions in areas like animal and plant health.

In summary, we're excited in IB to bring microbial solutions to help address these major trends in human needs.

Shown on Slide 32 are 3 specific examples of how IB is addressing those megatrends through innovation. So I mentioned laundry detergent before, but it's a massive product category. Over $130 billion in annual sales all around the world and still growing as washing machines penetrate the developing world as incomes rise.

Shown in the photos is one of the leading brands by one of our great customers and the largest player in the space, Proctor & Gamble. We continually innovate in enzymes for laundry detergent to provide better performance against an ever wider range of food stains, but our latest generations of enzymes have also been designed to work equally well in cold water as they used to in hot water. The energy savings available as a substantial portion of the population switches from warm to cold water washing is equivalent to taking millions of cars off the road, an important story for today's ever more environmentally conscious consumers.

So second, to the middle one, demand for animal protein growing around the world as populations have been increasing in wealth. Poultry is one of the most cost-efficient ways to produce meat. IB's enzymes enhance the ability of animals to digest the feed, resulting in lower cost to the grower and a lower environmental footprint.

One of the important trends in the industry is the elimination of antibiotics from the food chain. This presents our customers with challenges, but it's also created an exciting opportunity for IB. We've launched a series of products that are based on the microbiome, essentially good microbes or probiotics that enhance the ability the animal to resist disease without antibiotics, resulting in reduced feed costs and increased far more returns.

IB also participates extensively in the energy sector across several of our product lines. One of the remarkable stories over the last decade has been the rise of hydraulic fracturing techniques in the U.S. and their impact in reducing oil price. So fracking requires water to be injected in the well hole, and that water gets contaminated with sulfur-reducing bacteria. The hydrogen sulfide these bacteria generate could lead to equipment failure, sour crude and reduced production.
Our glutaraldehyde solutions and deep industry expertise make us a trusted partner for major oil and gas producers and oilfield service companies around the world.

And also in the area of biofuels, our yeast and enzymes significantly improve bioethanol production yields and the overall economics of brain processing for fuels. Our newest yeast products are genetically engineered to both manufacture some of the enzymes that a customer needs in their plant and also to convert more of the available sugars into ethanol. Ultimately, this helps give farmers more options to make money from their crops.

On Slide 33, with the recent addition of microbial control from Dow, we have a broad and I think unique position in the home care market. So one of the first steps we took was to create a unified sales and marketing team that's focused on offering both enzyme and microbial solutions to this market.

So if you look at Slide 33, one of the areas that we think is particularly interesting with this combination of capabilities is the ability to address what the industry calls the malodor problem in laundry. Now the industry calls it malodor problem, but consumers have different words for it. They call it the funky smell that your gym clothes get, even if you -- after awhile, you wash them. And some people call it the perma-stink that happens in some washing machines. So that's caused by microbes that remain in synthetic fabrics, especially when they're washed at lower temperatures. And all joking aside, it's a serious complaint from consumers, and it's a complex and difficult to control phenomenon.

We think that IB is one of the only suppliers that have the odor science expertise, the protein libraries and the deep laundry application knowledge, and we're going to go after this problem. We're excited and our customers are excited to work with us given these broad capabilities and a commitment to the home care market.

And if you look at overall cost synergies and step back and look across the integration of Dow Microbial Control into IB, we are realizing significant consolidation of labs and sites around the world that generate savings scientists and bringing our scientists and our commercial teams closer together.

I'll close on Slide 34. As you can see, IB is a very healthy business that's showing top line growth over the last few years. We do this by maintaining our operating discipline. Our revenue and our earnings per employee are very high, and we demand operating improvements every year. At the same time, the IB business has a solid track record of delivering on our R&D investment and ample opportunities in the future to exist to continue to do so.

I'll just end here with 2 thoughts for you to take away. I would describe our biotechnology capability in this business as amazing. We continue to strongly invest in developing our own technology as well as leveraging the broader developments happening in industries like biopharmaceuticals. We’re getting better and better over time. Products that used to take us 3 to 4 years in development just a couple years ago are reaching market in half the time.

And we're very diversified in our end markets. We range from home and personal care to animal nutrition. There are still lots and lots of markets where biotech solutions can deliver advantages. We haven't even yet found all of them. This diversification creates an advantage, I think, and enables opportunities for strong, sustained top line growth.

So let me now turn it over to Matthias Heinzel to cover nutrition and health, the other business within Nutrition & Biosciences segment. Thank you.

**Matthias Heinzel**  
*President of Nutrition & Health*

Thank you, Bill.

So we have the tallest guy running Nutrition and Health, so there's some correlation, you need to just acknowledge a little bit.

All right. Again, thank you, William. Good morning, ladies and gentlemen. It's a real pleasure for me to be here with you today. I’m Matthias Heinzel, and I’ve been leading the Nutrition and Health business
last 4 years, in total 15 years with DuPont working in Europe and the U.S. And I'm really excited about the progress we've made both in advancing the business on a strategic level, also with the recent M&A transactions, but also delivering more than 600 basis points margin improvement through really very strong execution. But beyond that, I'm even more excited about the tremendous opportunities we have had in our space and the ability to really create a significant impact on people's lives through our offerings and also deliver high returns to our shareholders.

So starting on Slide 36, let me first of all give you a high-level introduction to really what Dupont Nutrition and Health or as I call it N&H is all about. So we are the world-leading provider of solutions for the food and health industry, and we operate across 3 key segments: food and beverage, dietary supplements and then pharma excipients.

Over the next few slides, you'll see that we have a very successful business with a unique and compelling offering and tremendous growth opportunities, and that's based on basically 3 key aspects. Firstly, we have sustainable market-leading positions in all of those 3 areas. For example, every other ice cream sold worldwide contains at least one of our ingredients. One in 3 probiotic supplements sold worldwide contains at least one of our ingredients. One in 3 probiotic supplements sold worldwide contains our probiotics. And 1 in 3 pharmaceutical tablets, which is sold across the globe, contains our pharma excipients.

We also have one of the broadest and most complementary portfolio in the market, and that combined with a very strong customer access. We partner with our customers to understand the challenges they face. And then together with them, we develop solutions to those specific challenges by leveraging the breadth of our portfolio.

Secondly, outstanding innovation is the key backbone of our business, and we are a clear driving force in our market. Our scientists really key to ensuring that we innovate both for the short term, likely with our customers with strong application development, but also to deliver some very new game-changing platforms, and I will highlight a few of those later.

One of those really big terms and William mentioned before is the human microbiome. And that comprise all the organisms we have on our body or in our body in which are really important to keep us alive and healthy. And building on our strong probiotics offering, we're really well positioned to play a critical role in this new exciting field.

So we apply a really different portfolio management approach to our entire R&D spent. This means we invest in the areas with highest growth where we validate high growth and high-margin potential.

All our offerings are really in our R&D spend is based on the bio-based probiotics, cultures, I will talk about HMO in a minute and also pharma excipients.

And the third element which excites us is really our track record and that we know how to deliver results. So over the last 5 years, we have continuously grown our business, and as I mentioned, we really have developed more than 600 basis points of margin improvement. And we've done this by focusing on high-growth, high-margin areas and continuously optimizing our business, driving a lot productivity in sourcing and manufacturing, and also divesting non-value adding product lines, like diagnostics, which you've seen earlier in the chart presented by Ed.

Now on Slide 37, let's move now to few key facts about the business. Looking at the left, you see our financial year '18, we estimate about a $4.7 billion sales, which is almost a 5% organic increase compared to our 2017 pro forma revenue. And we expect our adjusted operating EBITDA to move top quartile among our peer group. And this year, we expect to deliver an organic increase and adjusted organic EBITDA in the high teens, and that translate into an operating leverage of more than 2x. So our revenue and profit is globally diversified. That means we are quite resilient to reach the market challenges and volatility.

And the global nature of our business is also reflected in our employee and manufacturing footprint. Of our 8,000 colleagues across the globe, about 1,500 work in Asia, which is clearly our highest growth and key focus area.
Now being a global business with the local presence is key for our customer approach. And the importance of business also reflected in the more than 20 innovation and application centers we have worldwide. And in those centers, we have application specialists with really in-depth knowledge of local market taste, trends and our overall portfolio. And they work then locally with our customers to create specific solutions. And several of those innovation centers and key merchant hubs, like Shanghai, São Paulo or New Delhi, we also have local regulatory compliance experts who then ensure that overall products obviously meet local requirements.

In the top middle of the chart, you see our 5 business units, and they reflect our combined business of Dow food and pharma coming into our business and H&N from FMC. And this spread of -- equal spread of the 5 businesses makes us less exposed again to market and customer volatility.

And then the section below shows how [indiscernible] are divided into the food and beverage segment and also the health and wellness market, and that includes dietary supplements and pharma excipients. We have a really excellent base and longstanding history in the food and beverage segment and a really strong and growing position in the health and wellness market. And then on the bottom right, you'll see a reference to some of our peer groups.

Let me turn over now to Slide 38 and talk a little bit more about the 5 businesses. Firstly, we have probiotics and cultures, and that's the business unit with the highest growth at more than 2.5x in GDP, and this is really high-margin growth. In this market, we offer a combination of highly effective probiotic procured strains and they're used either then for dietary supplements, which you can take as a capsule or then in food products to be marketed with added health benefits.

Secondly, in our 5 business units, we have pharma excipients, and that's a business unit which also offers very attractive margins and nice growth opportunities. And pharma excipients are those critical components in a drug formulation, which helps then to deliver the active ingredient into the right part of your body, either through a controlled release or immediate release.

Now having combined the portfolios of FMC as a nutrition and the Dow food and pharma solution, we now have an undisputed really leading position in this market for immediate and controlled release. And we have very trusted brands like Methocel or Avicel.

Then thirdly, we have a group of 3 businesses which are related to each other as specialty food ingredients for the food and beverage industry. We have a very strong position in this market, as I mentioned, with excellent science and application know-how. And DuPont and our power brand, Danisco really has an immense trust in the space and long history and a lot of focus also in food safety, which is really critical across the globe.

An interesting area in our systems and texturants business is called functional systems. And here we use our food science know-how to create and specialize solutions for individual customer needs. Creating new plans by combining different ingredients in new ways is also key driver for a high double digit growth, for example in Asia, especially China.

So in China, for example, we help the customer to create an entire new yogurt category, which is called [indiscernible] yogurt, by developing a product with long shelf life, which doesn't need to be chilled, which is really a great benefit because then you don't need the cold supply chain infrastructure.

Now let's take a look at our market context on Slide 39. On the left, you see some of the key global megatrends, which really drive the growth in our segments. We have a growing Asian population. By 2050, more than 10 billion people will be on this planet, and 1 in 5 of those will be over the age of 60.

And in addition, coming on top of that, there's a higher focus on health and wellness, and more and more people also require access to affordable health solution. And this fosters the demand in all 3 of our segments. We've seen increased market pull for product offerings, health benefits, such as probiotics or the pharma excipients supporting more complex drug for chronic diseases.

We also see a strong clean labor trend and consumer interest in free-form organic products. And this meets -- and to meet this trend, we really have a clean labor hub in our center in Denmark, where
scientists and application specialists work together to really help our customers to address this clean labor trend. And in this lab, we also include the food enzymes, which my colleague William Freehery talked about before.

On the right-hand side, you see the 3 segments and our addressable market size. Food and beverage is clearly the largest segment we’re [indiscernible]. We have a strong position there, but with a higher growth, even higher growth is coming from dietary supplements in the pharma excipients space.

So in summary, we operate in large, very attractive segments. Growth is driven by the megatrends and especially is focused on health and wellness offerings. And we're very well positioned to capture this growth.

On Slide 40, I'll highlight now a few of those examples of how we capture the growth going forward.

My first example is in probiotics, which I already mentioned earlier, and we have more than 2 decades of experience in probiotics, and I call it still a market in the making. Over the last few years, consumer interest has increased dramatically, and probiotics have developed from being a niche segment to really become a focus area in high consumer interest and demand.

The probiotics ingredient market is about $1 billion in size. And today, global awareness for probiotics is about 50%. But only 6% to 7% of global consumers currently take probiotics as a supplement, and this varies obviously greatly. In U.S., it's much higher than in Europe, and even much smaller in Asia, and that shows a tremendous potential. So we're working with all the leading brands in this field to really capture this growth opportunity.

We're one of -- we were one of the first companies working commercially with probiotics, and we're also a front runner in this space today. Our HOWARU premium brand, and you see some of the examples on the booth outside, is really seen as an innovation leader. From day 1, we have built our probiotics portfolio on our many decades of experience in our cultures offering and our strong foundation. We have a key focus on safety and quality in all what we do, and we carry out extensive clinical trials to demonstrate the efficacy of our products. And those are really pharma-type studies. We follow good clinical practice. Those are double-blind, placebo controlled, randomized studies. And we have carried out and funded more than 100 of those clinical trials, for example, for gut health or immune health, and then tested those against very specific consumer demographics. Then we share those results with our customers so they can build them in their value proposition towards their consumers. And we obviously work very closely with all the global and regional regulatory bodies to ensure that our products meet all the local requirements.

So far probiotic products have focused on digestive and immune health, and there's still a great growth potential in this area. But we’re already looking at the next level of health benefits, and that includes things like cardiovascular health or weight management. So it's an extremely exciting market. As I said, it's a market in the making. We are a clearly a leader in this segment, and we're investing both in innovations but also in capacity expansion to really maintain and further build our position.

It was mentioned before, we're investing about $100 million in our facility in Rochester, New York to really meet the growth of our demand going forward, and that will expand about 70% of our capacity.

My second example is HMO, human milk oligosaccharides. And HMOs are a class of sugars that and present in human milk and will link to the growth and positive health of infants. It's been a goal for the industry for some time to be able to offer infant formula containing those HMOs.

And just this year, we introduced a really new HMO product, which we market under the name CARE4U. And so far, it has received regulatory approval both in Europe and a non-object from the FDA in the U.S. Customer interest has been huge for this product, and it was already named Infant Ingredient 2018 of the year by NutraIngredients USA. So HMO is also a very good example of how we collaborate.

We partnered with a [indiscernible] startup company for the strain development and then work together with William’s team from Industrial Biosciences for the commercial scale up. And then in addition, we also leveraged our own N&H experience of sugar separation technologies to really create a high-purity superior product. So HMO for infants are just the beginning. Our breakthrough in creating such a high-
purity HMO product creates an unmatched innovation platform, where the next steps are toddler, but also adult health. So you will see this product also in the market, not just for infant, but also for adults creating again additional health benefits.

Now my third example, which you see on the right side of the chart, is pharma excipients. And talked about the market trend for clean label and free form earlier. And that trend is also reflected in the pharma industry where consumer demand for gelatin-free capsule is growing. And today, the gelatin-free capsules market is about 10% of the total $800 million capsules market, and it grows well above the market rate of 8% to 10%. Now we are using the combined know-how of pharma excipients from Dow and FMC to create a gelatin-free capsule. And that's really through the formulation skills of both incoming businesses.

Turning to Slide 41. I show you know a little bit more on the valuation -- on the value creation opportunities for the combined business. So with FMC health and nutrition and Dow food and pharmacy solutions, we brought really 2 of the leading pharma excipients providers together. And with that, we can now offer a unique portfolio in the space to the benefit of our customers, as my example also already showed on the gelatin-free capsules.

So in order to accelerate and capture those growth synergies, we're focusing on 3 things. Firstly, we're investing in innovation capabilities to fill and accelerate the product pipeline, and we are applying our differential portfolio management approach. We're doing this to ensure that we really get the highest return for our investments. We use also the formulation expertise and know-how from pharma excipients to innovate in new areas and identifying new growth platforms.

For example, we are now looking at how we can further improve the stability of our probiotics offering, which is delivered to the consumer through a capsule by using now our pharma excipients know-how. And thirdly, we are increasing also the market reach and scale of pharma excipients by leveraging our really global footprint and the route to market we have as a DuPont N&H business. And of course, the integration also offers significant cost synergies, and that includes traditional [ ARS ] sourcing, [ infrastructure ], consolidating sites.

In addition, we also see on the portfolio side. So to give you an example, by leveraging now the combined business, we can bring now cellulosics in house, which is the key ingredient for our functional systems business, and we obviously create cost synergies.

And my last slide on Slide 42, I'll share with you now the financial overview of our reporting segment, Nutrition & Biosciences, which as William mentioned before, these are the 2 businesses, Nutrition and Health and Industrial Biosciences.

And what we see here puts really I think a number to the story William and I have shared with. You can see the breakdown of revenues for both businesses in the top section of the graph and then the adjusted operating EBITDA numbers for the reporting segment in total.

You see that Nutrition & Biosciences have been operating very successfully over the last few years. Today, we are market leaders with a unique petroleum customer closeness and with a tried and tested innovation machine. And we manage our business to deliver top line growth and margin expansion.

We have a clear strategy for how we're going to pursue further growth in this segment. We're focused on our high-growth, high-margin areas. I mentioned probiotics as one of those examples. And we innovate to solve customer challenges of today and the future. And we continue to highly differentiate our resource allocation, both CapEx and R&D, on those high-growth, high-margin areas. And of course, we will continue to actively manage our portfolio. We just closed obviously a double integration with FMC and Health and Nutrition.

So as I mentioned at the beginning, we have delivered strong improvements over the last few years. Our management teams are committed to further drive up our margins. We still see continued potential while delivering above GDP top line growth.

So on behalf of all my colleagues here, the business presidents, I'd like to thank you for your attention. We'll open up not for Q&A. And for that, Lori will come onstage to moderate the Q&A session.
Question and Answer

Lori Koch  
Director of Investor Relations

Thank you. So we'll use the same setup. So we'll have some mic runners in the back. So if you raise your hand, I can direct the microphone runners to you. David?

David L. Begleiter  
Deutsche Bank AG, Research Division

Dave Begleiter, Deutsche Bank. Rose, in your business, the margins have been relatively flat the last couple years despite improvements in [indiscernible] basis points. What's been the driver of the flat margins? And where do you think they can go going forward?

Rose Lee  
Former President of Protection Solutions

Yes. So we will see about -- you'll see -- we'll deliver about 100 basis points improvement in 2018. We are working on pricing actions and the operational improvements that we mentioned previously is what is just starting to kick in, the simplification of the supply chain and the improvement in productivity. So combination of pricing that you will see in the coming years as well as our portfolio actions, and we've already shared that we are hoping styrofoam itself will enable about 100 basis points for [ F&C ]. So combination of those things and more to come through our multiyear work in our large [indiscernible] sites that I gave as an example, all will contribute to the acceleration of margin improvement that you will see coming forward.

Lori Koch  
Director of Investor Relations

Chris?

Unknown Analyst

So just across the N&H business, you've spoken a lot about your probiotic-s expansions. You've also done a lot over the years in texturants, emulsifiers, et cetera, et cetera. Could you just hit what you're most excited about within that portfolio? And explicitly within the excipient market, what are the geographic opportunities? How's your business in Asia, India in particular? How do you see that evolving?

Matthias Heinzel  
President of Nutrition & Health

Yes. Thanks for your question. So first of all, we're really excited about really impacting people's lives. So clearly, a couple of things. I mean health and wellness is a growing trend, so with probiotics, I mean we're about to create health benefits for consumers, which by the way, is both in the mature markets, if you will, like Europe or North America, but there's a huge growing trend in Asia with probiotics. We are growing high double-digit. And just to give you a number, in the U.S., average consumer spends about $80 on vitamins, minerals, $7 out of that is probiotics. In Asia, the equivalent number is $16 on total dietary supplements and only $0.40 is on probiotic. So that gives you a sense for the tremendous growth opportunities we see with probiotics, again to impact people's lives and create health benefits. Then you mentioned pharma excipients, which is again a new part of our business. We're very thrilled about the ability to bring Dow food and pharma and FMC's health and nutrition together. And the growth opportunity there is certainly also in the emerging markets. We also work with branded products but also the generics, so there's a lot of growth in India in those kind of markets in Asia. So that excites me and my leadership team. And the last thing, if I may, we do have a broad portfolio. So you mentioned emulsifiers, you mentioned systems and texturants. I mean think about this aimed in yogurt, it's a $1 billion category which we developed together with our customers. This is -- where you don't need a cold supply chain. Now it tastes a bit different than the yogurt you are used to in the U.S. -- or I mean used to
in Europe, but it’s a tremendous new category. So the ability to use this combination of ingredients to the benefit of the consumer and the local tastes and trends, I think is a tremendous benefit. And again, if we look at the growing population, the growing middle class in Asia, access to packaged food is a tremendous growth opportunity, which excites us a lot.

**Lori Koch**  
*Director of Investor Relations*

Vincent?

**Vincent Stephen Andrews**  
*Morgan Stanley, Research Division*

Vincent Andrews of Morgan Stanley. Just wanted to ask about the organic revenue target of 3% to 5% for the total company. I mean the slides that you showed, showed that all the segments were growing at least 5% coming into ’18. Obviously you streamlined the R&D. You’re going to divest some lower-performing businesses. So how conservative do you think that 3% to 5% is? And maybe you can just break it down, is it all the segments that are going to grow 3% to 5% or some faster, some slower?

**William F. Feehery**  
*President of Industrial Biosciences*

Yes, let me take that one. I mean on the one hand, I'd say we're trying to incent the businesses to over-deliver, right. So certainly as you saw from the numbers, every segment is trying to deliver faster than GDP growth and if successful clearly, in aggregate, we're going to be on the top end of the 3% to 5% range. On the other hand, market conditions being what they are and the uncertainties in the world, we didn't want to overcommit in terms of putting a number out there that we weren't pretty confident we can deliver on. You probably know Ed Breen's style. It's about don't put numbers out there that you can't have confidence that you're going to deliver. So I think between the growth potential of the portfolio and the portfolio actions, we're trying to make sure that we can keep up the momentum that we've seen the last couple of years, which is on the top end.

**Lori Koch**  
*Director of Investor Relations*

Jonas?

**Jonas I. Oxgaard**  
*Sanford C. Bernstein & Co., LLC., Research Division*

I hate to do a quarter question on a Investor Day, but your implied guidance suggests that you’re going to grow about 17% in Q4. Is that a onetime effect? Or how should I think about that as a baseline for ’19?

**William F. Feehery**  
*President of Industrial Biosciences*

A fourth quarter question in Investor Day, really?

**Jonas I. Oxgaard**  
*Sanford C. Bernstein & Co., LLC., Research Division*

I know, it's awful. Sorry.

**William F. Feehery**  
*President of Industrial Biosciences*

That's all right. 17% was segment operating EBITDA. And what was the question? I was so shocked you were asking me a fourth quarter question, I missed the question.
Let's see if I can make it worse. It's just the 3 previous quarters, according to your numbers in the last second last page there, you've grown at about 1% quarter-over-quarter for 3 quarters in a row. And then to get to the guidance of 13% EBITDA growth, you need to grow another $200 million or about, I think 15% quarter-over-quarter, 17% year-over-year. Massive step in 1 quarter.

William F. Feehery  
President of Industrial Biosciences

Got you. Yes, I think the main factor is just the abnormals associated with equity earnings in the Hemlock joint venture, so that's probably the secret sauce in here. And so we can probably give you a little bit more of that offline in terms of what the abnormal year-over-year stuff is there.

Lori Koch  
Director of Investor Relations

P.J.?

P.J. Juvekar  
Citigroup Inc, Research Division

A question for all of you about pricing. How do you think about pricing? Does pricing mostly come from new products? And for businesses like Randy's business, you have exposure to ethylene, propylene building blocks through your polymers. And lot of specialty companies struggle with pricing when the raw materials are volatile. So how would you approach pricing?

Randy Stone  
President of Transportation & Advanced Polymers - Specialty Products Division

If I can comment on the T&A piece. So we've had a big improvement in price, you see about 5% for us year-over-year, had a big impact on our earnings and our growth as well, too. For us, it's about delivering great products and about running our assets at full utilization. I mean, if your assets are fully utilized and your markets are tight, you've got pricing power and the ability to kind of command that. If you're underutilized and you don't have great products and demand is weak, it's pretty tough to have the results that you need to improve price. For us, it's been a major factor in our success. So many people ask how are you delivering 10% revenue growth in a slow automotive market, for example. And we say 5% of it is price. We're gaining share in our markets. We're selling our high-margin products faster. We see better content per vehicle in the U.S., for example, with more SUVs. So but price is a big factor and it drives incredible leverage in our business and across the company. And it's an area that I know all the business presidents are focused on is price.

James T. Fahey  
President of the Electronics & Imaging - Specialty Products Division

Yes. I can speak for electronics and imaging, where our products are very, very differentiated. So when we introduce them, they're actually rather high price point to begin with. And our product turnover, we reintroduce new products every 6 months looking at the technology cycles. And they're always introduced at much, much higher price points as well.

Rose Lee  
Former President of Protection Solutions

And if you look at a combination of -- we also have certain subsegments. So we're pretty rigorous about where are the segments, where supply and demand is favorable for us in addition to the product differentiation. And also a lot of our applications are in places where it's difficult to switch out, so it's sticky. So once you're in there and the price demand dynamics are favorable, and we tend to have a market dynamics where we're one of the leading players, so you have leverage in those moments to get more price for the differentiated functionalities that you offer in the applications.

Lori Koch  
Director of Investor Relations
Kevin?

**Kevin William McCarthy**
*Vertical Research Partners, LLC*

Kevin McCarthy again. I wanted to come back to the sales growth objectives that you've outlined. Listening to your presentations, which were all pretty well done, by the way, it's evident that you serve incredibly different end use markets. And when we look at each of your goals for the top line, strikes me that they're all identical. They're all 1.5x GDP, which one could argue is not terribly heroic, right. Sales is nominal. GDP is often expressed as a real or inflation adjusted number. In listening to you, Marc, it sounds like you wanted to be conservative. And so in that context, can you talk about the areas where you feel like you're being most conservative and where you feel like you could over-deliver on sales or volume growth over the next, let's say 2 or 3 years?

**Marc C. Doyle**
*Chief Operating Officer of Specialty Products Division*

Well, first of all, it's a great question. And you're absolutely right, we are trying to be conservative. I mean let me give you a little bit context and I'll try to come back to an answer to your question. If you looked at the history of this portfolio of businesses going back 5 or 10 years, there has not been much aggregate top line growth despite the fact that the businesses haven't changed much, right. So we really did a lot of deep study around what was it that was holding back the growth historically. And some of it was that we had segments that were in decline while others were growing. We hadn't managed the portfolio as actively enough, so pruning out the things that weren't growing. And occasionally, markets go south on us. This year we've had a lot of headwinds from photovoltaics that have really impacted and the E&I growth. So part of the going forward strategy is to just be cautious and conservative with respect to the aggregate numbers, understanding that although we don't intend to repeat instances of the past, there are dynamics in these markets that are hard to predict. Now going forward to your question, where do you see the opportunity to really over-deliver? It's some of the things that you saw us highlighting here today, the big macro trend-driven opportunities like automotive electrification, like the microbiome that cut across multiple businesses. And you saw us trying to size these opportunities, and it's order of magnitude of $1 billion growth opportunities. Difficult to predict regulatory processes and market penetration to the dollar, but we're seeing some really big growth drivers here. And I think what you should expect from us is as we invest in R&D and M&A and capital, that we're putting more and more money into those areas and actively taking the stuff from the edges that isn't delivering that aggressive growth and pruning it out of the portfolio. And I'd love to be able to come back and say, and as a result, the numbers are growing faster than mid-single digits. I'm just a little bit cautious to commit to that at this point, right.

**Lori Koch**
*Director of Investor Relations*

Next question. Steve?

**Steve Byrne**
*BofA Merrill Lynch, Research Division*

Yes, Steve Byrne. A question for all the business unit leaders. Given your commercial folks are now selling a platform of products that are largely legacy DuPont, but a share of it is from legacy Dow, are you seeing any signs of revenue synergy yet?

**James T. Fahey**
*President of the Electronics & Imaging - Specialty Products Division*

I'll jump in with that one, yes. I'd say that's probably one of the biggest sources of growth is that. And we've got a very, very good market presence in the channel to market on one side and some really good technologies on the other side. Even before the merger occurred, we were kind of start talking to some of our larger customers, and they were excited about not being able to get all these materials together, right. So synergy just to bring those existing materials into a new channel of market is one. Design them together, because these materials are actually used in the same processes, for example, like our CMP pads
and slurries. If you look at that process, it uses strippers and cleaners, which come from EKC. We're now able to, one, take them up together; but two, design them upfront so they work much better together, right. So we're seeing those in our numbers already. Next year is going to be an even bigger year for us on that because we're really seeing a lot more traction.

**Matthias Heinzel**  
*President of Nutrition & Health*

If I may just fill in on that. So with the addition of excipients, we have the really ability to really leverage that into a probiotics offering. At the end of the day, probiotics is a capsule with 10 billion, 20 billion of live bacteria which need to get delivered to the right part of the body. So we have now the ability to really tap into the great expertise of the Dow food and pharma business or H&N business to really combine those things together to create even better health benefit and deliver those kind of material to the really right part of the body. So we are very excited about those growth opportunities.

**William F. Feehery**  
*President of Industrial Biosciences*

And if I can add, if I look at our example in microbial control and enzymes, one of the first things we did was we sat down, because they're both selling in the personal care, home care market. And we sat down and said, okay, which customers do you guys have, which customers do we have. And we noticed there's an overlap, but there were areas of strength on one side or another. So really, one of the first things we did was combine the sales force and said, okay, we're going to have 1 sales force in this market and then we're going to and to leverage what we have in both sides there, and I think we'll see some benefits from that.

**Rose Lee**  
*Former President of Protection Solutions*

The biggest example is -- for us is the example that I already shared. We also did the same thing. We -- it's under one management structure in the building space. It's an integrated sales force and the broader offering that we're able to provide. To give as an example, before the merger, the solutions that Dow offered and solutions that DuPont offered at times opposing solutions. And so when we got the building science folks together, we realized it doesn't have to be like that. You can actually broaden your offering by putting together customized composite solutions as a function of the type of structure that you're going after, whether it's steel structure or wood frame or residential, et cetera. And so as you brought the 2 kind of brain trusts together, we realized that we're able to offer more solutions in the marketplace.

**Randy Stone**  
*President of Transportation & Advanced Polymers - Specialty Products Division*

Yes, Steve, for us, when we look at transportation, if we went back 2 years ago and looked at our portfolio, knowing that hybrid, electric vehicles, autonomous driving was coming, we would have said we had a gap in adhesives and silicones, but the portfolio realignment really gave us the right portfolio to allow us to grow faster. We've got greater scale with adhesives. We've got greater relevance. These trends around lightweighting and thermal management, we've got capabilities in our portfolio now that are better than ever before, and we call on many of the same customers. So we brought a lot of automotive expertise from Dow combining with us. So we see kind of immediate synergies on the revenue side as we kind of combined sales force and have greater leverage and better capabilities at the OEMs mid-tiers.

**Lori Koch**  
*Director of Investor Relations*

We'll take 2 more questions. Frank?

**Frank Mitsch**

Frank Mitsch, Fermium Research. Just to follow up on the top line question. Marc, you did talk about puts and takes and you highlighted photovoltaics. So my question is around that, and it's for Jim. As we think about your -- obviously top line was impacted this year from portfolio actions as well as from
photovoltaics. Has that run its course? I mean I listened to the presentation, a lot of great growth drivers out there, going to see high market share is very exciting. When can we actually see that manifest itself in the top line there? How should we think about that in 2019, 2020 type of time frame?

**James T. Fahey**  
*President of the Electronics & Imaging - Specialty Products Division*

Sure. So With regards to the photovoltaic, I mean the biggest impact, I think most of you know is the FIT change in China in May of this year. That brought the number of installations, photovoltaic installations down minus 7% on a year-over-year basis. Next year we're seeing numbers more like 15% to 20% growth. So there's a recovery next year. So we're probably going through our worst period now photovoltaics. So that'll be built in, and we'll see much more improved next year. To be honest, probably at a lower cost basis. With the overall market dropping by 22% this year, obviously there's an oversupply. So the price point is lower, but the number of installations actually are going up next year, so we are seeing a recovery there.

**Marc C. Doyle**  
*Chief Operating Officer of Specialty Products Division*

I think it's fair to say, just building on Jim's comments, we like the photovoltaic market, great long-term growth market, connects the renewability, sustainability trends, but it's going to continue to be a regulatory-driven volatile, extremely price sensitive market. And so how do we win in that market? We've got about set of offerings now, including polysilicon with the Hemlock joint venture. We're continuing to test the strategy in terms of how do we, in the long term, survive a market with that -- those sorts of dynamics.

**Lori Koch**  
*Director of Investor Relations*

So one more. Back in the back, yes.

**Aleksey V. Yefremov**  
*Nomura Securities Co. Ltd., Research Division*

Aleksey Yefremov in Nomura. In Industrial Biosciences, how are you planning to grow in Crop Protection and sea treatment? Are you aligned with Corteva or is this going to be more independent go-to market approach?

**William F. Feehery**  
*President of Industrial Biosciences*

Yes, thanks, that's a good question. So we have had some effort going on for some time with the ag part of Dupont that's now becoming Corteva. And because there's a lot of opportunity to apply microbiome science into the ag space, we're planning on continuing that even as they spin off. So we expect to continue to leverage our excellent -- we know those people pretty well. We've been working with them for a while. So it takes a while to launch things in the ag space. It's regulated, as you know. But the opportunity is there to reduce the use of crop chemicals and provide some of the same -- I mean not the exact same kind of benefits, but apply some of the same kind of science to that area that we are to the -- we've been very successful in human and animals.

**Lori Koch**  
*Director of Investor Relations*

So thanks for your time. We hope you're excited about the new DuPont as we are. We're going to break now for lunch, and lunch is provided out in the main area and then be back here at 12:45 for the start of Corteva. Thank you.