

Chr. Hansen Holding A/S
Virtual Capital Markets Day 2020 - Live Q&A

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Martin Riise

Hello and welcome to the Christian Hansen virtual capital markets day Q&A webcast. My name is Martin Riise. I am the Head of Investor Relations, and I hope everyone has had an opportunity to watch the presentation videos and explore our virtual capital market webcast which was opened up yesterday afternoon.

We now come to the Q&A session where you are able to ask your questions [inaudible 00:00:23 – 00:01:17]. We will prioritise questions from the phone, but while you guys get in line we will take the first questions from the chat and it is from Mauricio. And Mauricio, what are the most important elements in Christian Hansen's new strategy please?

Mauricio Graber

Thank you, Martin. I'm very pleased to be here today with some members of our executive management team to be able to convey the conviction and excitement about our 2025 strategy. But if I talk about it in broad terms, I would say it's about unlocking the next wave of value creation for Christian Hansen by setting up Christian Hansen as a differentiated bioscience company with a strong purpose to unleash the potential of our microbial and fermentation technology platforms.

And this is something that we're all extremely excited about. Our strategy defines four key areas on where to play, and it's really about reinvesting in our core business. I think if you have seen on my video, the core business has contributed on absolute terms most of our growth.

The second element is about leveraging our lighthouses and expansion into adjacent spaces. And the lighthouses are exciting areas that represent the high potential and growth that is above our group level. The third element is about extending, and extending our microbial and fermentation technology platforms. So, we continue to strengthen them. And the last one is about the review of our non-microbial assets and namely the natural colours division.

That defines in a succinct way the word to play. Now for the how to win, we have identified five key areas and it's really about continuing to drive the unique customer centricity of Christian Hansen, accelerating our innovation and go to market in a time where innovation will be more relevant for growth and in order to do that, we will continue to leverage, and you will hear more from Torsten, our ability to drive through operations, scalability and productivity to invest back into the business.

We're making a strong commitment to our purpose to grow a better world naturally and to our people, that's the biggest asset of Christian Hansen and how we continue to drive development, talent development, and diversity as part of our management.

I think complementing that and to wrap this question up, I would say our framework for capital allocation remains unchanged. The number one priority would be about organic growth. We are blessed to play in a space in Christian Hansen with our microbial and fermentation technology platforms that have high growth or high organic growth opportunities. So, making sure we invest in capacity, in talent, and in innovation resources to capture organic growth.

Second would be strategic M&A, bolt-on M&A the way we have done and really focus on strengthening our microbial and fermentation platforms. Third is about our ordinary dividend and fourth about the additional cash distribution to shareholders. And together with that, we have defined what we will not do, like becoming an integrated solutions supplier or investing outside the microbial and fermentation platforms.

To finalise, I would say we are extremely proud on continuing our journey as a sustainable company in our ESG commitment, and I think that was captured in our purpose. I think, Martin, that summarises the great excitement and energy behind our 2025 strategy.

Martin Riise

And actually, to elaborate on that because there is another question in the chat about integrated solutions. Could you please expand on the reasons why you would not want to become an integrated player?

Mauricio Graber

Martin, I think different strategies serve different companies well. I think in the case of Christian Hansen and through collective work that we did in our strategy, what really makes us unique, what makes us different, what resonates with our customers and where we hold a unique technology IP platform, is really around our microbial and fermentation technology platforms.

So, when customers think about Christian Hansen, they think about how we can help them address solutions for their innovation, for their brands, and for their value proposition to consumers through our unique proposition and I think as we talk a little bit more about that, I'm sure that Jacob and Christian will expand more on that for food cultures and enzymes and health and nutrition respectively.

Martin Riise

Great. So, I just have two more questions from the chat and then I promise we will jump to the phone, but I think this one is for Christian. Any circumstances we would consider launching a business to consumer brand. For example, if you felt customers were not doing a good job in promoting the benefits of your science to end consumers sufficiently.

Christian Barker

I think that's a very good question. Certainly, the human health space and supplements is very attractive and following our recent acquisitions of UAS labs and HSO, we have a very broad and deep offering and also the capability to work all the way from strain to finished solution which means we basically can produce a finished consumer pack.

With that said, we are very clear in our choice. We want to remain at B2B player. We don't want to get into competing with the customers and also the skill set in building consumer brands is somewhat different from what we focus on and what we're uniquely good at.

Martin Riise

Great. And I think the second question is also for you, Christian, and that's on [? 00:07:00]. Why do you think gut health might have an effect on neurological health such as Alzheimer's, Parkinson's, et cetera? The person who posed the question has read a book called *The Inflamed Mind* by Edward Bullmore, which suggests that depressions are in fact caused by inflammation, which is able to cross the blood brain barrier.

Christian Barker

That's a great question, and I wish I had brought one of our science is to help answer it. What I can say is that it is amazing to see how many correlations have been established between the state of your microbiome and various disease states and certainly the gut brain axis is one area where I think the early science is very, very promising.

Now, there still is quite a lot of time ahead to establish true clinical proof and we can capitalise on that in two ways. Firstly, with [? 00:07:43], we can work with some of the start-ups that are trying to do discovery in this field. But also, in the context of supplements, we do see promising opportunities within the gut brain space to do more work and that is one area that we'll be doing research on in the years ahead.

Mauricio Graber

Maybe Martin, just to complement on that, for the people that are interested we actually have a video on the microsite with Luca Schupak [ph 00:08:06], the CEO of [? 00:08:08] talking about all the exciting elements that are taking place in [? 00:08:12] in our working life by therapeutics.

Martin Riise

Great, thanks. So, I would ask please for the operator to allow the first person on the line to ask questions.

Operator

The first person is Lars Topholm from Carnegie. Please go ahead.

Lars Topholm

Yes, congrats with your new strategy. I think it's quite ambitious that a company commits to growing 5 to 9% over the next five years, so clearly positive. I do have a couple of questions. So, in the growth you are still including natural [? 00:08:55], I think it's a public secret you're going to sell it. How would metrics such as growth and EBIT margin be affected if you sold it? And if you sell it, will you then come out with revised long term targets?

Second questions goes for [? 00:09:16] because revenue here will not contribute to the organic growth, I assume, since it's a joint venture where you book the results below EBIT. If we assume you had booked, say, half of revenue, how would it then affect your growth CAGR over the next five years?

Then on the EBIT margin, according to the presentation, short term we will have a negative margin effect from amortisation of purchase price allocations in UAS Labs and HSO Healthcare. I just wonder if you can give some more colour on the level of purchase price allocations behind that assumption.

Then I have a question to the lighthouse and patients which you present as addressable market. But what are your assumptions behind how much of the addressable market you expect to capture? Is it all of it? Is it only a smaller part of it? And specifically, for plant protection, how do you calculate addressable market? Is that simply a function of crops multiplied by markets where you expect to have a registration by 2025? Or how should we think about that? Thank you.

Christian Barker

Thank you, Lars. I'll take general stuff, but the answers that involve members of the executive management team to support that. So first of all, I think it is very important to state that on the natural colour strategic review, we are conducting a thorough strategic review. It would not be appropriate to comment more on that at this point in time.

To your question about growth and EBIT, I think you have all the information, knowing that while natural colours have had the slower growth over the last couple of periods, if you look at my presentation and you look at the Nature's No. 1 strategic period, natural colours contributed to growth at the group level. So, that's important to highlight.

Obviously, the EBIT entitlement of natural colours has been a lot lower than the EBIT accretion to the group. I will let Søren then comment a little bit more on that. So, why don't we take – Søren, you comment on that and I will get back to [? 00:11:43] for the second part of the question.

Søren Westh Lonning

Yeah, so as I also mentioned in my presentation on the site, I'm mentioning that the organic growth ambition of mid to high single digit would also apply for our microbial platform. And if you look to the natural colour, it's grown with around 7% over the last strategy period. We predict market growth to the tune of around 6% in the coming period. So, overall natural colour is - we consider that a growth element, although it comes with a higher volatility than the rest of the businesses. So, as confirmed in this, we would not change the organic growth outlook if we were in the situation where we were to divest the natural colour business.

In terms of the EBIT margin, and whether we would revise our ambition here, we have also worked to articulate our ambition for EBIT margin in a way that can accommodate for various scenarios, and the key measures we have here is really around that we, outside of portfolio choices, outside of currency changes, are committed to continue to deliver scalability in our business while also investing in the future growth of the company and that intent and that commitment is still intact also if we were to divest the natural colours.

Now you can do the math and you know the absolute sales and the absolute EBIT of our natural colour business and if we were to take that out of our business, we would see an increase in our EBIT margin of a three plus percentage points, so quite significant impact that will come from that, but that will be part of the portfolio changes and it will not change that we are committed to delivering scalability going forward.

Christian Barker

Exactly, and I think that's very important, Las, because we're trying to come up with a set of long term financial ambitions that serve us well over a five year period and that are focused on continuing to generate value for Christian Hansen. Maybe, Torsten, that's just an opportunity, I mentioned that, for you to talk about the scalability journey that we have in operations as part of the EBIT expansion margin and we will come back to there.

Torsten Steenholt

Yeah. We of course invested reasonably well in investment in capex in recent years, which means we've got the capacity we need. We always balance as a utilisation, but we've actually got a lot of scalability and efficiency programmes going forward that will allow certainly margin expansion for us. We have delivered a big part of [? 00:14:31] 17 expansion and the scalability associated through that. But there is a nice and attractive portfolio of a number of initiatives, many of whom we are doing together with R&D colleagues and delivering together in our microbial fermentation technology platform.

So, then we of course, as a business can take choices, conscious choices, of reinvesting a big part of that into the growing business as well.

Christian Barker

And really exciting journey ahead with what we can do in yield, in automation, and in productivity. So, onto the part of [? 00:15:01]. For sure, [? 00:15:04] is a joint venture. We have made clear that the growth of that will be reported on one line. So, it does not count in our organic growth calculation. I don't know, Søren, if you want to comment a little bit more on that too.

Søren Westh Lonning

No changes in the way that we recognise the impact which is in the financial items on the net line. However, it is clear that since we do expect [? 00:15:30] to evolve in the coming periods, and it is today a very low amount of revenue, it would have – it's being included in our organic growth. You would have

a number that would be positively affected, but you of course do not see that in the way that we report the numbers.

I cannot be specific on the exact size of it, but it will be a relevant number, you can say, to consider also on that aspect. [inaudible 00:16:00].

Christian Barker

Is progressing as we have planned with the completion of our investment within the organisation, right?

Søren Westh Lonning

Indeed, so the vision behind [? 00:16:10] of course is to create the preeminent CDMO for the [? 00:16:14] therapeutic space and with the appointment of a CEO and a new top team with the operational role progressing on track and most importantly with the signing of a handful of customers and the quality of the dialogues we see we're enthusiastic about where we are with [? 00:16:30]. [inaudible 00:16:34]

Martin Riise

The third question, we sort of answered it in relation to the EBIT margin, because basically we are saying there are portfolio changes that include the upside of potential divestment of natural colours, the impact of the amortisation, and purchase price allocation of the acquisitions, but the most important thing is we are committing over the period excluding those to continue to drive EBIT margin expansion through our productivity initiatives and be a business that is high growth, mid-single digits to high-single digit growth with EBIT expansion and a free cash flow that grows faster than the absolute EBIT expansion.

Onto the lighthouses, maybe we can comment a little bit on the lighthouses and Christian, you can start with the one on plant health and a good opportunity, then Jacob, for you to comment on by bioprotection.

Christian Barker

Very good. So, we are quite excited about our plant health lighthouse. The pressure towards improving productivity in farming in a sustainable way remains greater than ever on farmers and after some years in the space now we feel that our capabilities are super relevant in this space.

Now, Lars, you had a very good question about the addressable market in plant health. We estimate that to be 400 million euros by 2025 and that is basically in our estimate the value of soil and seed applied bacterial solutions spanning over crops and focusing on bio-pesticides including or excluding insecticides.

Now one thing we have learned is that it takes time to build business in the plant health space and to continue to answer your question, what I would say is that we will not by 2025 have fully penetrated all corners of that addressable market. It is difficult to predict the regulatory environment, but there certainly will be parts of this market where registrations either haven't yet been granted or have been

granted so recently that we haven't yet had a couple of seasons it normally takes a drive full penetration of a new biologic.

But fundamentally we are very excited about the opportunities ahead in plant health.

Mauricio Graber

And to your question that we're providing addressable market potentials and what's our aspirational market share. I would say high. Very high. We are an ambitious team. We have set for ourselves very ambitious internal targets and we think one of the advantages of being a focused microbial player is that can clearly target to deliver under these spaces that we are focused on like leading on bio-protection, Jacob.

Jacob Vishof Paulsen

Yeah, thank you. Great opportunity to talk about bioprotection. Very exciting truly for Christian Hansen. I also in my presentation put out a few touch points on the size of the market and I must say first of all we try to establish the long term potential of building of this market opportunity. Thinking of, if you look at the current core markets we are in so, meat and dairy and you think of all of those having a bioprotection element added.

So, shelf life improvement for sustainability, food waste management or food safety components, then it would be a billion. And then you think of that extending into more food matrixes and dealing with more pathogen issues like salmonella, it grows bigger.

But then we also wanted to tell you a little bit more about what could it look like in 2025 and right now at this point in time we are just less than 10% penetration of the core market. If you think of a 20% penetration, it's a 200 million euro market opportunity, of which we would like to be a market leader in that segment, and we have good comfort in that journey. We have already a very meaningful business, high-digit growth, a portfolio of IP protected products, and thousands of customers are already onboarded, and we have a number of great initiatives in our pipeline to advance on that journey.

So, our commitment and excitement in the team is really high on that journey.

Martin Riise

That's correct. Thank you for that and I think operator, we are ready for the next person on the line please.

Operator

The next question comes from the line of Søren Samsøe from SEB. Please go ahead.

Søren Samsøe

Yes, good afternoon. First of all, question on your new targets. Seems like you're focusing more on market growth and less on your own growth than in the past. Historically your growth has not been very

correlated with market growth. Should we see this as Christian Hansen becoming more dependent on market growth, and will this then mean higher volatility in your growth rate going forward? That's my first question.

The second question goes to the lighthouse projects. Just if you quantify what the absolute level of sales on each of the four areas today, that would make it easier for us to sort of extrapolate growth forward to 2025. Thank you.

Mauricio Graber

Thank you, Søren, for the questions. I would say overall I don't think we are communicating a strategy where we are more dependent on market growth. I think we are communicating a strategy where we are showing a strong conviction to being a high growth company. You've got to take it from the perspective that we also are communicating the strategy at the period of time where there's more uncertainty.

There is lower short term visibility due to COVID than what you would have in the past as COVID has affected lives and livelihoods, customer demands and consumer behaviour. So, I think the range of mid to high single digits provides a good perspective given where we are and looking at the five years ahead. I don't want to repeat myself too much, but I think as a company that positions us clearly as a growth ambitious company, together with an expanding EBIT margin and strong cash flow generation.

Now, to your question about the market potential. I think that is true for the lighthouses and what we're trying to avoid is that the lighthouses represent a high potential where we're doing business building, and I think it, at least based on my experiences, doesn't add a lot of value discussing the specific growth on a quarter to quarter basis. I think we have set high entitlement, ambitious targets for our lighthouses. And they will continue to deliver accelerated growth for us on an annual basis.

Søren, anything else you would like to add on that?

Martin Riise

I guess Søren is not on the line any longer. Maybe, I'm not sure.

Søren Samsøe

Yes, I thought he was referring to the CFO. Okay, but so we don't quantify how much sales you have today in each lighthouse project, is what I'm hearing you say.

Mauricio Graber

We can add a few reference points to that, Søren. I think we have communicated that our bioprotection lighthouse, which is the largest at this point in time, is to the tune of 7 to 8% of food cultures and enzymes so it's just north of the 50 million euro mark so that that is the largest one we have.

When it comes to the plant health, which is the second largest in our portfolio, that is to the size of up to 5% of our health and nutrition business area, to that tune. Maybe slightly below that, but to that tune.

And then when it comes to plant-based protein, that is still a very relatively small business, also reflecting that the yoghurt market based on plant bases are still at a very low level compared to the dairy space.

But here we do see a continued trend that really supports growth in the future on that. That is the reason for our excitement. When it comes to the [? 00:25:08], we have made the first customer wins. It's still early days but maybe also building a little bit to the question that the Lars Topholm mentioned before, if we have said that we expect the market for clinical trials to represent an opportunity of 150 to 200/250 by '25. So, if you assume that that we could take a market share, now I'm just speculating, to the tune of 30%, that would represent also a very sizeable opportunity for Christian Hansen that would impact the organic growth by up to one percentage point a year if you were able to achieve that market and achieve that market share.

So, that is to give a little bit of colour to the current size of the lighthouses, and some of the outlooks that we have communicated to you.

Søren Samsøe

Okay. Thanks, then.

Martin Riise

And the next person on the line, please.

Operator

The next question comes from the line of Jonas Guldborg from Danske Bank. Please go ahead.

Jonas Guldborg

Yeah. Good afternoon gentlemen. I have three questions. First, another one around the long term organic revenue growth guidance you've given. I just want you to clarify or specify what is mid to high single digit percentages. Is it five to nine, as Lars said, or is it four to nine which is more in what I normally would think it would be?

And then secondly, if you could put some colour on the human health Asian probiotic opportunity you're talking about. You talk about high future growth opportunities and that you need to build on that string. So, how much revenue do you have in Asia probiotics today and how fast is it growing? Which segments are driving the growth and then what are you doing to capture this growth?

And then, my final question is on your commercial project pipeline. You do not directly comment on it in your presentations, but if you could give an update on the outlook for that, it was a concern for growth in 2021 a couple of quarters ago. Is this still the case? Thank you.

Mauricio Graber

Thank you, yes I would say before passing it a little bit to Søren to question that, mid to high single digits means mid to high single digits. I purposely do not want to quantify that. We want to be clear and consistent in our communication around our long term financial ambition. But if you look through the presentations, we have provided some additional and more granular information that can help you in your interpretation and maybe Søren, you want to provide some support to that.

Søren Westh Lonning

Yeah, some of the reference points to take into consideration is that we refer to our food cultures [? 00:28:00] growth model where we are building a model where that adds up to 5 to 7% organic growth on an annual basis. So, that's one data point. Then we have an ambition in health and nutrition to outgrow our markets. And here our assessment is that the markets across health and nutrition will grow to the tune of on average around 7% in the period, and our ambition is to outgrow that. So, that points you a little bit in the direction of where we see the midpoint of our expectations.

And then we have natural colours, obviously also where we have a market growth expectation of around 6% over the period and where we as a market leader also have an ambition to at least grow with the market and hopefully a little bit faster than that.

Mauricio Graber

And that's very important, Søren, thank you for highlighting that. I would just like to repeat that natural colours, I would not assume it as a lower growth business. It just has had a lot more volatility when you look at the growth with the variability of raw material prices and for sure the higher exposure to COVID in our food service business.

Moving onto probiotics. Probiotics is a really, really exciting space. I think our probiotics business in Asia has been growing very fast and we're excited about the future potential that it has and maybe, Christian, you can comment a little bit about our franchise and the growth opportunity that this represents.

Christian Barker

Absolutely. Indeed, the global probiotics category, we think it's a very attractive place to be for the future. We see global growth of 5 to 7% over the next five years, but APAC will be significantly higher, more in the double digit territory. We have a strong starting point, so today the most important regions for us, if we look to supplement in infant formula, is really APAC and North America with EMEA this big in our current mix and I would say that China in particular is a very important market to us where we see very significant growth.

And I think the thing to note here is that penetration still remains quite low, so there is a lot of upside, both from adult kind of supplements in various shapes and forms, but also [? 00:30:22] of infant formula adding probiotics, more formula, and also supplements, for instance. So, we see plenty of growth opportunities ahead in APAC and China in particular.

Mauricio Graber

I think, Christian, we have also disclosed that our combined portfolio of UAS Labs and Christian Hansen for the market in Asia will be important where we will be able to continue with the high science single string of Christian Hansen, but also tap into the fast growing market of multi-strain high potency in Asia.

With that, I would probably move to the commercial pipeline. I think it's important to highlight, and maybe Thomas you can comment a little bit on that, that our R&D pipeline, we really continue to advance that at the same pace during COVID through the effort of your team and continued to drive our projects in R&D. And then I will pass it to Jacob to comment a little bit on the commercial pipeline.

Thomas Schäfer

It's very true and thanks for the comment, Mauricio. So, during COVID, when we faced all the kinds of lockdown, both in Denmark and many other countries in Europe, we had together with the business a clear exercise on reprioritising the portfolio and focusing on what's most important at that point in time. And I can proudly state that all the projects are in a better state than they actually were at that point in time.

Everybody, whether it was a lab technician, whether it was a scientist, or a department, has really upped their game and focused so much on the pipeline. So, it was great to see. All in all, I can state that the pipeline as such is in much better health and in much better shape than it was ever before. And it is giving good opportunities to grow both business units in the period. It has a great balance for the core business, and we invest going forward more in the core and the lighthouses and the great balance even between more incremental innovations and more radical innovations in the lighthouses.

Mauricio Graber

Thank you, thank you so much for that. It's good ammunition for the commercial guys. And I know Jacob, that we have mentioned that during COVID, the interaction face to face with customers was limited, but we're extremely proud of the work that the commercial organisation has done in being resourceful, finding ways to advance the commercial pipeline and leveraging some of our digital unique capabilities, right?

Jacob Vishof Paulsen

Yeah, so it's very, very comforting to see that the overall sales pipe approaches is intact, it's strong and healthy. Of course, in a time where we cannot meet the customers and advance at their sites, you need to find new ways of working with them and we have been very focused on our pipe of advancing in other ways than just meeting them at the plant. So, we can see that there's been a refocus of the projects towards some of the more saving initiatives. So, half of our projects are actually something that's going to optimise productivity at the plants, also providing savings. And that has been put in the forefront.

And then also, there's a renewed interest in probiotics projects. So, that's some of those that we can advance also better without those extensive trials at the customers. So overall, I would say that we are in a good comfort on the project pipe to realise in particular the next 18-20 months horizon, which is really what is in the project pipeline.

Mauricio Graber

And maybe to provide more colour, Jacob, I think we commented that in the project pipeline we have a very disciplined approach of a stage gate approach and it was the end of that process where we had to conduct trials at the customer plants that was more challenging, but even that is becoming more resourceful, right? Could you give an example on how we have worked with customers in closing a project that required a trial?

Jacob Vishof Paulsen

Yeah, so, definitely first of all, there is still - we have a specialised technical salesforce very close to the customers. It's also a differentiating point from Christian Hansen, so we might not fly in the experts from abroad, but we still have the opportunity in many of the countries where we can still meet with the customers to bring our people in front of the customer. That is definitely one thing.

Then we have also, and we talked about that, but two years ago that we would advance some of our digital work with the customers. So, what we're doing is actually we're tapping into the actual trials, getting data out from the trials. We are bringing that back to our experts at a distance providing superior application knowledge into the process so we can actually enable better trials now at a distance. So, thank God we initiated some of those digital initiatives a couple of years ago.

Mauricio Graber

So, to conclude on that, while indeed the ways of working with customers due to COVID has created a different pattern and maybe some delay in the commercial pipeline, as humans and society we're resourceful and I'm very, very convinced that we will find ways to continue to advance our commercial pipeline as there will be a need for innovation in consumer demands.

Jonas Guldborg

Okay, thank you very much for your answers.

Operator

And the next question comes from the line – the next question comes from the line of Patrick Roquas from UBS. Please go ahead.

Patrick Roquas

Thank you. Good afternoon, everyone. Two questions please. The first will be on your new plant based lighthouse. That sounds like a really interesting opportunity there where you talk about replacing texturisers and paste modulators with cultures. Can you talk more about where you stand on this in terms of proof of concept, customer interests and potential commercial launch of such products?

And then the second question is on the pipeline where you've described the pipeline value as being 75% of the core business. Can you break that down any further into product groups or application groups? Thanks.

Mauricio Graber

Thank you, Patrick. So, plant base is an area of a lot of excitement. It is something that is getting a lot of press coverage and a lot of a lot of consumer engagement as well. Many times, we get asked the question, 'will plant based cannibalise dairy or what is our view?' And what we see with the product the customers are working on plant base, you have the dairy companies launching products with plant bases and you have a lot of emerging start-ups also launching products with plant bases.

What we believe is that plant based products will definitely attract a new set of consumers to the category that before were not able to have fermented products and enjoy those. And I think Thomas and Jacob, you guys have been really instrumental on this and maybe Jacob, we start with you to answer the question, 'how are we leading in plant based interaction with customers?' And please refer to Thomas for some of our technology on strain and new culture development, particularly for plant based products.

Jacob Vishof Paulsen

Yeah. So, really exciting journey that we have started, actually more than three years ago and we're already on that journey. And if we think of it as a bigger play, it's really about fermentation of proteins and we have a market leading position with our microbials of fermentation bio protection probiotics, which we are already well established into other protein sources, milk based, meat based, and also in the history already in more plant bases.

And we can leverage those technologies, and this is what we have done already in the first generation of our products where we already have succeeded with customers. We are on the shelves with successful products. There is, as mentioned, a journey as we saw it with the dairy. If you take a yoghurt, it had a journey towards what it is today of a culture and milk is the final state of that ideal product.

You will see the same with plants. So, taking out texturisers, unhealthy ingredients from the labels, to a point where it's a microbial and a plant. So, this is what we are really look looking to be our differentiation in the market. And it holds a lot of excitement. Maybe, Thomas, you can share a little bit of excitement also from what's in the pipe.

Mauricio Graber

Just before, Jacob, I just complement that question. Whether it is an oat based or a coconut based or an almond based, are we leading in that space or what is your view on how are we in our commercialisation with customers across all of those plant bases?

Jacob Vishof Paulsen

So, this is with the big customers and a lot of the strategic partners. These are the discussions we are having. What is the ultimate final best protein base that we would be looking for? Is it oats or peas [ph 00:39:42]. In those particular three ones, we already have solutions, but they are more complicated than at this point in time to ferment then the milk base which we have been growing up with for 145 years.

This is a new thing actually of working with these and we see a tremendous potential as us being the industry leader of microbials actually to find that the real differentiating points of reducing texture, great taste, shelf life improvements, adding health into that matrix, whether it's pea [ph 00:40:23], soy, oat, that would be the final destination.

Mauricio Graber

So, Thomas, the company, sitting with the largest microbial culture collection, are we able to leverage that to win in plant base?

Thomas Schäfer

A very good question and personally, I share the excitement that Jacob has for that space. Also, because I'm convinced we can leverage many of the core technologies we have. What Jacob just said, fermented protein in the milk bases, of course instrumental plant bases are different.

But the basic technologies that we have developed in the dairy space in the core, from our culture connection, designing the right performance related strains to pick out the best strains, developed prototypes, combined cultures into the right assays that we have both in R&D but also in the application unit just before we go to a customer, they're all applied for the space.

So, we have a very, very good adjacency because we have built all the technologies for the milk space. Now, we apply them for the plant based spaces.

Mauricio Graber

Actually, Jacob, just to wrap up on Friday, you and I tasted together with your group how we can leverage that also into fermented beverages in plant based and fermented beverages, where we can create an unexciting adjacent space not only in drinkable and spoonable plant bases.

Jacob Vishof Paulsen

I think we tasted a product that's definitely not competing with the dairy space because it's really a fermented beverage opportunity that is fresh and healthy profile of a product that stands in the different shelf of the supermarket. So, I think we're here at an opportunity to create differentiated, highly sustainable products together with our producers or customers for the consumers.

Mauricio Graber

Patrick, to your second question on the pipeline, I think we have provided a lot of granularity through the presentations. We talked about 75% of our R&D resources focus on the core, 25% on the lighthouses. For commercial sensitivities we will not break more down details into the specific segments and I hope you can understand that.

Patrick Roquas

Great, so I have some questions to go along with the plant based interest here. One question is around the lighthouse of plant based, fermented plant based [ph 00:42:48]. How many products are required to reach, let's say, 100 million euro in revenue in fermented plant based and what are the timelines for these new products? And would the margins in this area be comparable to FC&E [ph 00:43:01]?

Mauricio Graber

So, maybe I'll just give a quick comment. What we have seen on the margin on plant bases is they are still niche products, so they've been margin accretive for us. Our assumption is that - but take into consideration that plant based, as Søren mentioned, they represent about 1% of the dairy market. So, it's still niche and therefore commands a premium. I think when this becomes more mass, we can expect that the margin entitlement will be similar to the food cultures and enzymes in dairy.

That's our best assumption, because the underlying value that we'll bring in fermenting those will be the same.

Jacob Vishof Paulsen

If you look at products, let me start with solutions. There will be multiple solutions because this space is really about applying a number of technologies with our application know-how into various opportunities, almost like a mass customisation where you will need to adopt our base technologies where we have scale. It will not be a massive range, but it would be something we can still produce and have scale [? 00:44:20], but then when we will meet customers, we need to tailor it to their specific needs. So, the solutions will be quite unique at the customers.

So, that's kind of a little bit about - and it is similar to our existing businesses. Also, in terms of margins, of course, we are establishing the right price points to this, but you can imagine that these products will be positioned in the retail market at a high premium. It will also be a quite complicated matrix, so the one that fits the components and makes a difference in the product will have a good opportunity for a good price point also.

So, we expect good margins like existing other businesses in FC&E [ph 00:45:07].

Thomas Schäfer

And maybe worth mentioning also just that this consumer segment purchasing these kind of products are also very interested in both health and sustainability which makes the cross-selling of bioprotection and probiotic solution even more relevant than in our existing categories.

Jacob Vishof Paulsen

That's a great point.

Mauricio Graber

It's difficult to quantify, Martin, the amount of products or projects that will lead to the 100 million. The best analogy would think if the mix is similar to our business, where you have global brands and local start-ups, that it will be similar to our business.

Martin Riise

Sure. Continuing with questions from the chat, the next questions are for Thomas, actually. And Thomas would it be fair to think that 25% of the R&D to be dedicated to production efficiencies? And if so, does management expect the return on these investments to be around group average or even higher?

Thomas Schäfer

So if you break it down, the allocation scheme that we have developed is 75% for the NPD [ph 00:46:16] pipeline as I've also been talking about at the video and the residual 25 will actually go in both - in two other directions, meaning technology development because one of the prime focus areas for us is maintaining our technology lead and extending the microbial platform.

And the second part of the 25 will go into a portfolio that I share with global production with Torsten, where we work on improvement of efficiencies that could be completely novel concepts for fermentation, that could be completely novel concepts for downstream processing, meaning harvesting our products, biomass or enzymes, and that portfolio, these 25 are very reserved and ringfenced for that, but of course very fluent in our priority making. So, what makes most sense at a given point in time?

Mauricio Graber

And, Thomas, on the part that is not shared with Torsten on productivity, but on the underlying technology, a few weeks ago we were in your labs and we saw some great examples on how we are also leveraging data analytics and robotics to continue to drive productivity within R&D. Maybe it's worth just mentioning that a little bit as well.

Thomas Schäfer

So, we have been on an automation and digitalisation journey for some time. We've actually installed a variety of robots across the value chain in all the different departments. That is critical to accelerate, make more experiments, and then deliver the right prototypes that we have for our customers. All that assumes that we are mastering, what I called before, predictive screening. So, we mimic the full scale applications into a small scale robotic system. For example, the microtiter plate. So, that's absolutely key.

What that also triggers is from automation and small scale experiments, you get a lot of data. Those data get into our digitalisation platform because the ambition is making those data available for all our scientists at all times. And that again is important to create more insight. We are a science-driven company. So, in data, based on experiments, also prototypes that we can send to customers with customer feedback, generate more data sets to create, actually, the next wave of innovation based on the insights that we have.

Mauricio Graber

I think, Martin, just to wrap up that point, I think it's fantastic to see how our ESG positioning and our purpose has been an enabler for talent attraction in R&D, particularly. We're also - as a result of COVID, we see a lot of brilliant young minds that would probably go to other fields of study and are really attracted to work on bioscience and work with a company like Christian Hansen on leveraging good bacteria to address some of the world's largest challenges and convert them into opportunities.

Thomas Schäfer

And if I may add on that note, we are known outside in the academic world as the microbial powerhouse in R&D. If people want to work in an environment where they can both learn, work on projects which have a purpose for society, and deliver projects and products to real customers. So, not only, with all due respect, academic research, but really make a difference, that is very attractive and that is what we have done over the last many years.

One evidence for that is that we have 30 nationalities in our R&D centre [? 00:49:57].

Torsten Steenholt

Maybe a comment to the point regarding commercial attractiveness of this. I think the investments we are doing together, Thomas, on driving productivity and efficiency, should at least compete with the financial attractiveness of our commercial business. So, strong payback on these initiatives.

Martin Riise

Great. The second question for Thomas is on the R&D spend. If we can get more granularity into the R&D spend and what share of development has to do with products that take out costs versus creating products for differentiation?

Thomas Schäfer

I don't think we will give more granularity on that question. I think, as I stated before, our pipeline is well balanced. Our pipeline is well balanced with respect to supporting organic growth in the core business and in the lighthouses. And then of course we have great examples for breakthrough innovations.

One example is CHY-MAX[®] Supreme. That serves a purpose of enabling the customer to save costs. SWEETY[®] is another example where it costs. So, I think there is a fluent grate between real new

innovations which enable differentiation at the customer, but cost is definitely also a differentiation point at the customer, so I think we have a healthy blend between those two.

Mauricio Graber

Søren, anything you would like to comment in the ratio of R&D. If that's what the question was.

Søren Westh Lønning

As we indicated in my presentation, we do expect the per cent to net sales of R&D and it also applies for sales in marketing to increase slightly over the period. So, not dramatic, but an upward growing trends to fuel both investments into the growth until '25, but also beyond '25 and then, on the other hand, of course we will continue to drive scalability in our production and in our admin functions. So, the balance net debt adds up to deliver both the growth initiatives and the scalability.

Mauricio Graber

Very exciting agenda, Torsten, on the fuel for growth to be able to fund our investments in the company. I think the organisation has consistently delivered on that, but we know that the journey ahead is even more exciting.

Torsten Steenholt

Yes, I think there's a number of strong initiative we have ahead of us, for instance, use of digitalisation and the tools are on there, as Thomas mentioned, and secondly is our continued use and what I consider industry leading is that we have on automation and robotics in. So, we have some strong examples of applying robotics with strong productivity and scalability as a result and we will continue to roll that out and deploy that in the group as a whole, similar to what R&D does on your level there.

Mauricio Graber

And for the people that haven't seen it, we have a virtual plant tour as well in our micro site.

Torsten Steenholt

Including a lot of robots.

Mauricio Graber

Yeah.

Martin Riise

So, we just touched briefly on sustainability before, Mauricio, and there is a question here on the chat as well about diversity. Diversity is an increasingly important consideration for all companies and the long term benefits are well documented. How do you think about gender diversity?

Mauricio Graber

I think overall the next five years, we're stepping up from a great foundation on our sustainability journey and talking about products, planet, our people, and purpose. I think our purpose to work for a better world naturally really excites and unites the Christian Hansen, Hansenites, as we call ourselves, around the world to really work with our products and technologies to drive that.

Specifically, on diversity, I think it's true we have ambition that gender and nationality diversity is reflected in our management teams. And I think we're making good progress on that, but one of the things that we have established as far as our 2025 strategy is we have established very clear targets for diversity in reflecting the ratio of females in the organisation to the same ratio that we should have in management.

And I think we will continue to do that as we go forward. Definitely diverse dialogue, diversity of ideas leads to better business decisions and we have a very diverse team at Christian Hansen. And we will continue to build on that.

Martin Riise

Sure. Coming back a little bit to the lighthouses. And there's a split question here for the two of you. Who are your competitors in plant health and in bioprotection and what is your market share today?

Thomas Schäfer

Great questions, I'm happy to go first, Jacob. So, if I look to plant health, I think the important thing is that our solutions do not only target competing with other biologics, but we want to basically develop solutions that can also compete with chemicals.

In some applications they may be able to substitute chemicals; in other places, they complement them. And that means that effectively the competitive set is quite wide in this space. With that said, in terms of the capability we bring, it is very much about the biologics competence and therefore as we compete, let's say, for partnerships and market access in different ways, our most direct competitors would be other companies that have strong biologics competences.

Jacob Vishof Paulsen

So, for food cultures and enzymes we are having the same set of competitors that we see in the core business. However, the biggest competitor is those who do not use it today. If we're building a market, I said it might become 200 million market opportunity in five years, but it's a billion opportunity in the future. So, it's really building the market and then also some are still using chemicals to preserve their products.

So, that's really the journey of further establishing the market going forward.

Mauricio Graber

And maybe to complement, there's nothing in the competitive dynamics that we think has changed. I think we see a strong competition of leading companies in the field and we like that. I think competition makes us stronger and healthy and we always try to stay a step ahead and compete and win in the spaces that we're committed to.

Jacob Vishof Paulsen

I think one thing on the bioptics journey that we are doing is really advancing our technology as Thomas was mentioning, we have discovered the mode of action and this is really something that we on the side line of launching new products, we really spend a lot of time scientifically to understand that and that creates a base for us to actually innovate the next generation of products which is coming in the next period here. That definitely is going to help that further penetration of the greater market opportunity.

Martin Riise

Yep, so moving a little bit back to some questions around natural colours. What tangible value would be created disposing the natural colours division, which has a very high return on invested capital and using the proceeds to do bolt-on acquisitions where our return on invested capitals are lower. The latest acquisition hints that lower return on invested capital would be very likely.

And the second question linked to natural colours is how do you intend to reallocate capital once natural colours is sold: Share buybacks or special dividends?

Mauricio Graber

Thank you, Martin. I would say overall what drives the strategic review of natural colours is basically the conclusion of our strategy process that leads us to create a focused bioscience company around our microbial and fermentation technology platforms. And even though natural colours is a very exciting space that has a bright future, it does not share on the microbial implementation technology platforms.

So, the big question to ask and I know it's something that has been in Christian Hansen for quite some time, even before I joined, is the question, are we the right owner for this business. But given the clear focus and the management attention that I believe is required to create this microbial powerhouse around the microbial and fermentation technology platforms is the right thing to review, the non-microbial assets.

So, an intangible benefit is really the management attention and the focus on our microbial technology platforms. Maybe, Søren, you want to comment a little bit more on the questions about capital allocation.

Søren Westh Lonning

I think it's a little bit - to compare - you can say a return on invested capital for natural colour on accounting book values compared to the market value of the recent acquisitions that we've done. If we were to divest natural colours, it would be at a price level that would be very different from the accounting book values of natural colours. So, I think the comparison is a little bit tricky to make that way.

What I would say is that when it comes to the acquisitions that we have done; we do see a quite significant value creation opportunity. We have said that the acquisitions of UAS Labs, as an example, would short term dilute our overall EBIT margin by roughly one percentage point due to the depreciation of the purchase price, but we still guided also in that announcement on UAS Labs that we expected that overall we could compensate for that from synergies, so bring margins back to the level that it was before. And that speaks to the synergies that we are able to create.

And maybe to build also on some of the example of acquisitions that we have done over the last couple of years, MPC LGT [ph 00:59:56]. Those are examples of us paying multiples in the high teens, but still within a few years, bringing those net multiples down after synergies that we have realised into a single digit territory. I think you all know the multiples Christian Hansen are trading at and if we can bring an acquired company down to the single digit multiple, I think we have been able to create quite significant value from the acquisitions.

Mauricio Graber

I think there was a second question on cash.

Martin Riise

Yeah, there was a second question on cash.

Mauricio Graber

I'll get Søren to comment on cash from natural colours.

Søren Westh Lonning

Yeah. I think when it comes to all the decisions we take regarding capital allocation and cash, we look through our capital allocation principles, so we have organic growth or bolt-on acquisition and then followed by cash returns to shareholders while maintaining an investment credit rating that is solid. And that means that given that we have already spent the money now, it will be obviously worse to divest natural colours to do actually reduce the leverage in Christian Hansen into the level that we have traditionally been tracking at, which is aligned with that.

And then of course we will explore based on the capital allocation [? 01:01:19], first organic growth and secondly bolt-on acquisitions. And if there's no other things that we require funding for, we would of course be very disciplined in terms of returning that to our shareholders.

Martin Riise

Thank you and I think we have another person on the line waiting to ask a question. So, operator, please.

Operator

We have a question from the line of Heidi Vesterinen from Exane BNP Paribas. Please go ahead.

Heidi Vesterinen

Hi, good afternoon. I'll ask my questions one by one. First of all, one of your strengths in probiotics is documentation, but one concern is that consumers often cannot tell the difference between a premium probiotic and a less premium one. For example, sometimes we see packaged food products or supplements just as cultures. So, what are you doing in both FC&E [ph 01:02:09] and health and nutrition to increase consumer awareness? That's my first question. Thanks.

Mauricio Graber

So, Heidi, on probiotics and documentation. Good question. I think as a leading company in science for probiotic and gut health, we think we have an industry leading role to play in growing the consumer understanding around probiotics and their benefits. One of the things that we have done, for example, is in the US, we have launched the Probiotic Institute as a way of bringing information to consumers, leader of opinions, in the community overall. And maybe Christian, I'll pass it on to you to expand a little bit on that good question.

Christian Barker

Absolutely. So, I think our commitment is very clear. We want to be the voice of science in the probiotics category, and we've always had, I think, quite strong science but we haven't always been good enough at getting it out there, and that's what we are now doing with the Probiotics Institute where we really have created an online platform that is becoming a go-to resource for serious science, serious clinical science, about probiotics.

And it targets medical professionals, it targets key opinion leaders, but we also see consumer interest in the site. And in addition to that, I would say that the work with key opinion leaders is also something we take very seriously as ways to continue to disseminate knowledge about what is a good probiotic and what is one that is not documented.

Mauricio Graber

Christian, you are leaving the integration steering team of our UAS Labs integration with Christian Hansen and that also provides a great platform on how we're going to leverage the best of both to address this good point that Heidi raises about how we are going to continue to drive science and communication of good probiotics to consumers. Anything else you may want to comment on that?

Christian Barker

No, I guess all I want to say is that with the acquisition of UAS, we just believe we have a platform that's unparalleled in the industry as it relates to the breadth of the offering, as it relates to the depth of the offering, and there are so many things we can do with this combined platform in terms of getting it out there in a science based way.

Jacob Vishof Paulsen

[inaudible 01:04:21] it's the same story. We are fully aligned with health and nutrition on the story and the communication to the market. But we are also thinking as we put forward in the strategy of broadening our scope into a more broader play in food. So, we have traditionally been in yoghurt products, but we're going into more shelf stable opportunities also with well documented probiotics but finding a way to put it into those shelf stable opportunities. So, that will be something that you will see in the coming strategy period.

Mauricio Graber

Exciting opportunities in new food and beverage categories and as well in pet food. Heidi, we move to your next question.

Heidi Vesterinen

Yes, thanks. Next one is on human health. In your slide pack, you say that the estimated market growth used to be 10%. Now, it's five to seven. Why do you think that is, given you've been talking about the surge in interest in probiotics for immune health?

Mauricio Graber

Christian, do you want to comment on this?

Christian Barker

Yeah, I think what we would say is that we have seen a slowdown in consumption growth in some markets, in particular in Europe, and also for a little while in North America, although we now see the North American growth rates picking up against. What I will say is that 5 to 7% as a five year outlook; we still think is a very healthy category. And importantly there are segments in that space that will grow way more than 5 to 7%.

That would include APAC and China, that would include a number of the new indication areas outside the gastrointestinal space, and it would include also different product formats that are relevant in particular on the online channel and a big part of the acquisitions we have done of UAS and HSO is [? 01:06:14] to make sure that we continue to strengthen our position against those pockets of growth.

Mauricio Graber

So, I would say, Heidi, that despite that 5 to 7%, and that we have already communicated before, is a lower underlying market growth. It is still, I would say, one of the healthiest categories as far as underlying growth and obviously as an ambitious company we target to grow much higher than the underlying growth in the category. And as Christian highlighted, moving into some of the areas like female health, strengthening our position in Asia and the combined portfolios of the acquisition, give us a very strong conviction on how we can outgrow the underlying market in human health.

Heidi Vesterinen

Thanks for that. I have two more questions. The next one is on bioprotection. I think in the earlier question you highlighted that your competitors are - other competitors in your traditional FC&E [ph 01:07:10] products. How do you compete with other types of non-microbial natural preservation technologies, please?

Mauricio Graber

Jacob, do you want to take that?

Jacob Vishof Paulsen

Yeah, so there is other opportunities. I said there's the chemical route. There's also other ways of preserving food and we are staying observant of other technologies that are there, but we think we have a quite unique value proposition of adding a microbial technology to the existing products. If you look to yoghurt, it's already that single ingredient that is on the label. It's a culture and then you are adding more culture, a bioprotection culture, not adding more things to the label or complication to the process. So, we think we have a really unique differentiation towards a lot of the other technologies.

And then it's the existing customer base. We know them very well. We know what they're looking for in taste and texture and other parameters that, when we are implementing the buyer protection, we are taking good care of adjusting only the other parameters. So, we think we have a very strong differentiation to some of those other technologies. Maybe, Thomas, if you want to add.

Thomas Schäfer

If I can complement. Of course, on a detailed level when we design our portfolio, we look at every and each project and for each of the projects we assign both a commercial roadmap but also a technical certainty. And on those technical certainties, we of course always do benchmarks against competing technologies and then we know what we're up against and what we need to improve on in order to be competitive later after launch when we are out in the market.

Mauricio Graber

And when we look at the other - I mean chemical solutions side, we will have the challenge of the label and the [? 01:09:06] label, and at least once we will look at other natural solutions that are non-microbial, it doesn't have the same level of interaction of good bacteria preventing the formation of bad bacteria. So, I think it's - the technology platform that we have for buying protection makes it quite unique.

Heidi Vesterinen

Thank you. And then I have a final one for Søren. I think you highlighted on one of the slides that there is a margin headwind from currency in 2020. I guess this also applies to Q4 20, given how currencies have moved. Can you describe what's causing the margin pressure and what magnitude of headwind do you currently expect from this in 2021, please.

Søren Westh Lonning

Yeah, I think we will not go into specifics of our next financial year. We will save that for our release of our annual report in October, but you can follow the main currencies that we are up against. During our Q4 we have seen the euro appreciate to the dollar and the Chinese renminbi, most importantly, our two main currencies. And you can refer back to every quarter. We outlined the currency sensitivities and exposure we have and when you bring those two together obviously when a US dollar depreciates by 8% and the Chinese renminbi by around 6%, it is a material effect that that would happen there.

But that can change many times from now and we will wait to elaborate further on that until October where we are discussing our expectations for '21 in more detail.

Heidi Vesterinen

Thank you.

Martin Riise

Great. Thank you. I have two questions on Asia Pacific and it's one for Christian and it's one for Jacob. Coming back a little bit to the dietary supplement comment that you made Christian, the question here on the chat is how are you intending to capture growth in dietary supplements in Asia? Isn't your footprint currently more US-centric and aren't the new acquisitions also in Western markets?

Christian Barker

That's a great question and I probably should correct the premise. So, our position in Asia Pacific in supplements today is already very strong and in fact, if I look at the UAS that we just acquired, they also have a very strong footprint in Asia. So, it's actually a question of quite a strong starting point. And then, of course, markets that are attractive and will show double digit growth in our best estimates.

But importantly, as Mauricio alluded to earlier, I think with the acquisitions of UAS and the combined strength of the two companies across single and dual [? 01:11:57] solutions and multispecies very

flexible solutions, we think we are extremely well positioned to continue to drive growth in that very fast moving marketplace.

Mauricio Graber

And I think, Christian, it is important to highlight that footprint should not be confused with manufacturing footprint. Actually, we benefit in our probiotic strains on our Danish heritage, right? And the strength of having European and US capabilities that Asian consumers prefer in value when they think about probiotics.

Christian Barker

Indeed.

Martin Riise

Great. And the second question on China for food cultures and enzymes, Jacob. Are you able to take market share from the ambient yoghurt market to chilled yoghurt including probiotics or asked differently, what will make Chinese consumers change their habits and buy chilled yoghurt?

Jacob Vishof Paulsen

That's a very good question. So, right now in China, we are seeing the highest difficulty in answering that exact question but is on the minds of the companies we are dealing with and we have very strong established relations with the main players there, and this is a key question, of course, on their mind. How can they, in a challenging time in China, where we did before the COVID crisis see a little bit of a slowdown in the growth pace, still growing.

We see a future where the amount of consumer growth, the consumption per capita, the support from the government suggests that there will be a growth momentum coming in China still in that segment. How are we differentiating in front of the customers? And this is something we are working very closely with the Chinese customers on, not just in China but with our R&D people, finding ways of differentiating both in the ambient and the chilled segments so we can stay the market leader in both of these segments.

Mauricio Graber

Jacob, just expanding a little bit more on that, it is true that the solution of ambient yoghurt in China was a key enabler for the fast expansion of the Chinese dairy market because it brought to the consumer the ability of having a product that was not chilled, that they did not like to consume chilled, and also expand the distribution.

A great innovation for us would be to continue to innovate in ambient to bring new technologies and new solutions with customers - are you excited about that journey? Talking first about ambient before I go to chilled.

Jacob Vishof Paulsen

Yeah, what a really exciting journey. Of course, it's an ability with ambient to reach the several towns outside the big mega cities. So, that is a journey where you have plenty of opportunities. It's also a scope where we're thinking on further probiotics of surviving in that ambient temperatures. So, this is something we are working on collectively with R&D.

Mauricio Graber

That would be just a fantastic opportunity and while chilled, chilled and has probiotics and it's more premium. It also has grown because of the aspiration of Chinese consumers to some Western habits, right? And we see that continuing to grow as well.

Jacob Vishof Paulsen

We are seeing that growing still and we are seeing that as a future opportunity. In particular also when you can provide a bit more safety and prolongation of the shelf life. And if you have heard us talk about the third generation of our bioprotection and this is exactly what we are trying to deal with, is that segment opportunity and we have that in our pipeline. So, of course that's going to be an opportunity for that segment to realise longer shelf life, better protection, better taste of those particular products.

So, again, an opportunity for us to revitalise the growth journey with the Chinese producers.

Mauricio Graber

So, challenging times, Martin now post-COVID in China, but when we look at our strategy five years ahead, pretty exciting opportunity in China and the Asian development markets.

Martin Riise

If we stay on food cultures and enzymes, there's a question here about the growth model that we are talking about. And the question is, if we assume that further conversion adds 1% - and the person asking the question knows that it is stated as less than 1% - but if we assume that it is 1%, then the components add up to six to eight and not 5 to 7%. Does that mean you expect further conversion of dairies to contribute close to zero growth rather than 1%?

So, in reality, do we want to be precise around zero to 1% conversion contribution?

Jacob Vishof Paulsen

Let me talk a little bit in general about the conversion journey. So, conversion, we have said that it is less than a percentage, but they come in stages. So, you will have years where we really convert a big customer on the journey. So, you might have a good bond there. You have years where you will not have those big conversions. So, over the period we are seeing that we are predicting that it would be less than a percentage. That's what we see, but that will come in steps.

And then while working on that, because there is still plenty of room for conversions, we have plenty of other opportunities with existing customers growing with them in the markets, pricing, adding additional features, upselling with the new exciting concepts, cross-selling, and then finally we have the opportunity also to go into leveraging our technology and our lighthouse opportunities for example, what we discussed with the plant based or bioprotection.

Mauricio Graber

And I think, Martin, just to clarify, in our model as well as in the previous model, that interpretation was there of the approximately 1% and whether you do the math, would it be 5 to 7% or 6 to 8%? But we're grounding it on the 5 to 7%.

Martin Riise

But maybe you could comment, Jacob. You also in your presentation show a little bit about where we are in the conversion journey in cheese [ph 01:18:23] and in yoghurt and also where you could see it come over time. And I think that may be a relevant point to just elaborate on.

Jacob Vishof Paulsen

Yeah. So, on the journey of the fermented milks journey, we are at a quite advanced state at an 80% level, but there is still a journey to the 90 that we foresee in the sort of mid to long term horizon that could be possible. At least we're working on it. And then in cheese we are still at the 55% conversion globally, so there's a good journey of opportunity to advance our DBS [ph 01:18:58] technology into more of those who are selling with big cheese on bulk.

Mauricio Graber

And also, Jacob, new capacity in cheese, right?

Jacob Vishof Paulsen

New capacity being added around the world and it's exciting to see it gives some comfort that cheese, we've seen a constant pace of cheese growth over the last ten years. It looks that there is optimism that that cheese growth is still going to continue, at least as being added a number of capacities over the next coming years. And it's just comforting to see that we are working with these, on DBS [ph 01:19:40] solutions, so growth and conversion will come from that.

Martin Riise

Great, thank you. I believe we have another person on the line waiting to ask a question. Please go ahead.

Operator

We have a question from the line of Søren Samsøe from SEB. Please go ahead.

Søren Samsøe

Yes, hello, again. Two questions for me. First of all, you stated in your written comment that Christian Hansen did not see any material impact to its operation or best model from the pandemic. I had expected you that you actually saw a positive impact on your sales, especially in health and nutrition. So, now that you see this year as being more or less normal, does this mean that then we're going to go into next year, that you don't see this as a top comparable, i.e. that you will expect lower growth next year for that reason?

And the second question is regarding, I think you commented around your last quarterly results that you had seen a changed behaviour from your customers, where they focus more on supply security and less on cost and efficiency, maybe. How has this affected your different divisions? And also, how much of this change do you see as permanent going forward?

Mauricio Graber

Thank you, Søren. So, I would say on the written statement that we have talked to will refer more that we have not seen an impact on our ability to supply and our ability to drive business continuity and supply our customers. I don't think we meant it in a way that we have not seen an impact from the from the pandemic in our growth or sales.

I think for sure we have commented that there are some parts of our business like for example our food service within natural colours that for sure has an impact and there are elements where when we think about 2021, you have to consider that, while our business proved to be resilient through this challenging year, we're also going into a year in 2021 where there will be likely an economic recession and more challenging growth dynamics.

So, I'll reserve that really to October, as Søren mentioned, because we want our focus today to be on the excitement of our five-year strategy and our five-year journey.

But, Torsten, a good question on the supply chain, so we have seen the resiliency of being able to provide to our customers products on time, on quality. I think you and your group have done a fantastic job. I have been the recipient of many letters from our customers appreciating the work that you have done. Maybe you can comment a little bit on the question about the shift in supply chain thinking from productivity costs, [? 01:22:42] costs, to supplier reliability and how we're working with our customers in that.

Torsten Steenholt

Yeah, we can definitely say that we have never had a stronger supply security than actually here during COVID-19. So, I'm also very proud of all of our colleagues who contributed to this. In recent years, we've got an increasing amount of requests from customers saying supply security and risk mitigation is really important for us. Our dairy customers, as an example, would have a tsunami of milk arriving at the door

every day. If they are not able to convert that into more shelf-stable products like cheese or yoghurt, the raw material is going off.

So, we simply need to be able to deliver to them at all times and we are finding increasing comfort in the fact that we can pack up all of our plants and produce in several plants and our customers are finding strong comfort in that promise to them.

Mauricio Graber

Excellent, and I think more of the focus on the partnership is being around supply security, reliability of supply, versus - Christian had an additional comment.

Christian Barker

Related to your question about the impact of COVID and if I look at health and nutrition, what I would say is that over a five-year period, the impact on the fundamentals will not be significant. Human health and consumer health if anything becomes more important, and we think this sustainability agenda that powers and macrotrends behind plant health and animal health absolutely will remain very, very strong.

Now in the near term we do see that in some parts of health and nutrition, and notably animal health, we do see a little bit of a temporary slowdown. We've had a super strong year looking one year back in animal health, driven by strong innovation performance and customer wins around the world. But we do see in the current environment that a bit of slaughterhouse [ph 01:24:23] closures, commodity prices, et cetera, is having a temporary slowing effect on our growth rates.

But again, when we step back and look at the fundamentals, we remain very confident about the outlook for animal health.

Mauricio Graber

Absolutely, so I think, Søren, if I would summarise it I would say long term as we look into our five-year strategy, probably COVID-19 has been a net positive in two ways. One is about the relevance of immunity and the solutions that we have around health and immunity and the second one there is a focus on climate and the relevance of our sustainability position. Both, I think, are a net positive for Christian Hansen.

We should not discount that short term, as Christian mentioned, there will be challenges on consumer disposable income for what still remain premium products, like probiotics. There will be challenges on agriculture that may have an impact on our plant health or animal health business, and I think we need to be conscious of that as well. So, some short term challenges and I think a very bright outlook as we look into the future.

Martin Riise

So, we are down to the last five minutes and still questions in the chat coming through. So, we will try to get through some of these as fast as we can, I hope. On mergers and acquisitions, can you elaborate on the considerations regarding overall balance between businesses and is it fair to assume that when

evaluating growth projects or bolt-on acquisitions, everything else equal, you would look to increase the weight of health and nutrition instead of food cultures and enzymes to get a better balance between the businesses?

Mauricio Graber

I think I'll make a comment here. I would say overall, Martin, M&A is really about complementing our organic growth through bolt-on strategic acquisitions that strengthen our microbial and fermentation technology platforms. I would not distinguish between a very good acquisition that will give us a unique technology or market access in FC&E [ph 01:26:24] versus health and nutrition. Søren, do you want to comment a little bit more?

Søren Westh Lonning

Yeah, you allude to the fact that health and nutrition is a fast growing market that is very dynamic. We have – it's new businesses to Christian Hansen, so we don't have the same position as we do have in food cultures and enzymes, and it is also an area where new technologies are rapidly emerging, including backed by venture capital, et cetera.

So, that means that the share of potential targets in that area are simply larger and that could speak to support the fact that it's more likely to happen in that, although we are fully open to consider both food cultures, enzymes and health and nutrition.

Martin Riise

Okay, thank you. A question for Thomas on innovation. To understand the significance of research and development, how many new product launches does Christian Hansen have every year? And should we expect the number of launches to increase over the coming five years? It seems that only selected launches are highlighted in communications and could Christian Hansen consider reinstating publishing the Innovation Index?

Thomas Schäfer

I think there are many elements to that question. I think we are discriminating between launches, which are very specific customisations to some of your customers in both business units, and then the real new platforms, and what we normally communicate about those are the new platforms and not that much of the customisations, and I think that is also the guidance for the coming years.

And how many products? That is a good question. I would rather refer to - we have a very strong roadmap, launch plans, for the coming five years to support both business units and we will live up to the promise that I have given personally, also to my colleagues here and the CLT. And we will of course again underline the importance of the new platforms that we're coming with.

When it comes to Innovation Index, that was the last part of the question, we have a target on the Innovation Index, and I think we have been talking externally about that, the overall group Innovation

Index will be around 20%. That's meaning if we are looking back – if we are looking forward into 2025 that from the realised sales in both business units, 20% will be from new innovations.

Martin Riise

Okay, thank you. Moving on to a question on lighthouses. I guess this is also for both Jacob and Christian. Do you think your biologic solutions will be able to beat chemicals on price or will customers have to pay up for the benefit that clean label brings?

Christian Barker

So, I think the answer is going to vary by segment. If I look to plant health, there are some segments such as [? 01:29:21] in sugar cane and in soy where a biologic solution is fully competitive in our view, at least with a chemical. If you look at the price performance equation.

That will however not be the case in all segments. In some segments it may be more of a niche application. In some segments it may be a booster to the chemical, so it makes the chemical more effective. So, I think the answer is a little complex to that question on the plant health side. Jacob?

Jacob Vishof Paulsen

I would be so daring to say yes on that, thinking that our products generally is 1 to 5% of cost of goods sold and thinking about the strategic value it will bring to remove a chemical from a label with and replace it with a microbial. It is a decision that if we make the application work, that decision will be taken.

Mauricio Graber

I think winning the lighthouses will be about the performance from the price competitiveness of our solutions.

Martin Riise

All right, thank you very much, gentlemen. I think we are coming to the end of the session. I want to thank everyone for joining the Q&A session today. Please visit our investor relations calendar, where you will see where we are able to offer one-on-one meetings through fireside chats, meet with management, et cetera. And for those of you who have not yet had an opportunity to look at the website of the capital markets day, please do so. Thank you very much and stay in touch.