

## **Transcript Analyst call Partnership Origin Materials 22 February 2023**

### **Operator:**

Ladies and gentlemen, thank you for standing by. Welcome and thank you for joining the Analyst call of Avantium 22 February 2023. Throughout today's recorded presentation, all participants will be in a listen only mode. The presentation will be followed by a question and answer session. If you would like to ask a question you may press star followed by 1 on your touch-tone telephone. Please press the star key, followed by zero for operator assistance. I would now like to turn the conference over to Miriam Wijnands (Investor Relations Manager). Please go ahead.

### **Miriam Wijnands (Manager Investor Relations Avantium):**

Good morning everyone and welcome to this call. My name is Miriam Wijnands, Investor relations manager of Avantium and I am joined here by our CEO Tom van Aken and CFO Boudewijn van Schaik. I would like to ask you to go on mute while Tom and Boudewijn running you through the press release that we issued last night. After their presentation there will be the opportunity to ask questions.

I need to point out that this conference call may contain forward-looking statements. You can find the disclaimers about forward-looking statements in the press release, also published on the Avantium website.

We will publish our full-year results over 2022 on the 22nd of March. We therefore kindly ask you to not ask any questions related to our annual results both financially or on our operations in today's call but leave those questions for the analyst call on our full-year results press release. Of course, Tom and Boudewijn would be happy to answer any questions you may have about the announcement that we issued last night.

I would like to hand over now to Tom van Aken. The floor is yours, Tom.

### **Tom van Aken (CEO Avantium):**

Thank you Miriam. Good morning and thank you all for dialing in this morning. I hope you are all doing well. As Miriam mentioned, I am pleased that I am joined this morning on this call by our new CFO Boudewijn van Schaik. Let me now run you through the press release.

I am very pleased that we announced last night that we have entered into a partnership with Origin Materials to accelerate the mass production of FDCA and PEF. This partnership is excellent news to our partners, as FDCA and PEF will become available on an industrial scale and it will be produced using 2G feedstock. It is a critical moment for the plastics industry that many people have been waiting for; a fully renewable, high-performance and circular plastic that is going to be produced at industrial scale.

For Avantium this deal means that we have signed our first industrial technology license agreement for FDCA and PEF, significantly ahead of what we initially anticipated. This license agreement is a key agreement in the partnership with Origin Materials, under which we will open the market to accelerate the large-scale production of FDCA and PEF. Origin Materials is a US-based NASDAQ-listed company and a like-minded partner committed to revolutionize the chemical and plastics industry.

This new partnership brings together Avantium's YXY® Technology for the production of FDCA and PEF, with Origin's technology which turns sustainable wood residues into useful building-block chemicals such as CMF. The partnership between Avantium and Origin is founded on a series of agreements, including a non-exclusive industrial technology license agreement and a conditional offtake agreement. The license agreement provides Origin access to relevant parts of Avantium's process technology to enable the conversion of CMF into FDCA at a facility of 100 kiloton per annum scale. To be more precise, we grant Origin a non-exclusive license to use certain parts of Avantium's proprietary YXY process, including certain patent rights. Avantium will execute a development program under the license agreement to establish a bridge between Origin's and Avantium's technologies. Avantium will provide Origin Material for instance with a Process Design Package (PDP) and an operating manual. Avantium will also support Origin Materials during the FEED- (front-end engineering design) and EPC- (engineering, procurement and construction) phases, as well as the commissioning and start-up of the licensed facility. With this, Origin can design, construct and operate a 100 kiloton licensed facility and produce, use, sell FDCA that is manufactured at that facility. Origin Materials expects to incorporate Avantium's process technology into the supply chain for product from its future plants.

In support of the industrial technology license agreement, Avantium and Origin have made ancillary arrangements to develop the market for FDCA and PEF applications.

In support of Origin's market development efforts, Origin and Avantium have also entered into an offtake agreement. Avantium will sell a significant amount of FDCA and PEF to Origin Materials from our FDCA pilot plant in Geleen and from our FDCA Flagship Plant in Delfzijl as from the commercial operations date in 2024. Origin will purchase a gradually increasing minimum annual volume of FDCA on a take-or-pay basis.

Signing this offtake agreement means that our business case for the Flagship Plant is now validated, but we continue to pursue our dialogues on additional offtake and industrial license agreements with other industrial partners. As we have explained earlier to you, we intend to sell more than 100% of the Flagship Plant capacity, in order to further expand and diversify the market for FDCA and PEF applications.

I will now give the floor to Boudewijn to explain a bit more about the financial terms of the license agreement.

**Boudewijn van Schaik (CFO Avantium):**

Thank you Tom. Good morning, very nice to meet you all. Given the commercially sensitive nature of this transaction, and the non-disclosure terms therein, I can only provide limited guidance on the financial terms.

Under the terms of the transaction, Avantium has received an upfront payment of €5 million in 2022. As a result of signing the industrial technology license agreement, Origin Materials will pay Avantium a milestone fee of €7.5 million. Origin will also pay Avantium subsequent license fees dependent upon achievement of different milestones in execution of the license agreement. Following commercial operations date of the licensed facility, Avantium will be eligible to receive royalties for each metric ton of FDCA produced at a licensed plant. The license fee milestone payments and overall royalty rate are in line with industry practices and also in line with our earlier disclosed guidance, for instance in our prospectus and our Investor Presentations. Here we have disclosed an overall royalty rate of 3% - 6%. The Origin transaction is well within this range.

In terms of the offtake agreement, we cannot disclose specific volumes or price levels, but as Tom mentioned this is a significant offtake volume from the flagship plant and within the pricing levels that we have previously guided on. I now give the floor back to Tom.

**Tom van Aken (CEO Avantium)**

Thank you, Boudewijn. This is an important moment in the strategic evolution of Avantium. We have been working on the commercialisation of FDCA and PEF since the discovery of our route to make FDCA in our labs in 2006 and bringing it to the market has been an extraordinary journey. The business model of our FDCA Flagship Plant that we are currently constructing in Delfzijl, is based on sales of FDCA and PEF to offtake partners to demonstrate the commercial viability of FDCA and PEF and that of our YXY process technology to produce FDCA. These steps support the execution of our strategy, which is to sell technology licenses to industrial partners who are expected to build production facilities on an industrial scale, based on our knowledge and experience derived from our Flagship Plant.

Entering into this partnership including the license agreement marks a major milestone for the global large-scale deployment of FDCA and PEF and therefore for the transition to a fossil-free materials industry. The partnership furthermore complements the feedstock options for our technology, as it also allows the use of 2<sup>nd</sup> generation, renewable feedstocks for the production of FDCA and PEF in addition to our high fructose syrup route.

It is also a defining moment in the development of the markets for FDCA and PEF. FDCA has been always been referred to as a Sleeping giant. Giant because of its huge market potential, sleeping because no one knew how to make it economically. This announcement is proof of how we are making strong progress, waking up this sleeping giant. With this sale of a first 100 kilotonnes license, we expect the sales price of FDCA and PEF will drop to allow a broader market adoption of both FDCA and PEF. We look forward to working with Origin Materials towards our shared ambition to transition the world to large-scale sustainable materials made from non-fossil resources.

That concludes our statements. I would now like to open the line for questions to Boudewijn or myself.

**Operator:**

Ladies and gentlemen, at this time, we will begin the question and answer session. Anyone who wishes to ask a question may press star followed by 1 on their touch-tone telephone. If you wish to remove yourself from the question queue, you may press star followed by 2. If you are using speaker equipment today, please lift the handset before making your selections. Anyone who has a question may press \* followed by 1 at this time. One moment for the first question, please.

The first question is from de line of Fernand de Boer with Degroof Petercam. Your question please.

**Fernand de Boer (Degroof Petercam):**

Yes, good morning this is Fernand de Boer from Degroof Petercam. First of all congrats on nice tab I would say. I have a couple of questions.

First on the capacity. The press release of Origin of actually says it has a capacity of 25kt conversion. So could you tell me how they would get at 100kt of capacity then. That's the first one, and also do they have sufficient financial resources to get at this 100kt, because so far they still have to start.

Then, the second one on the capacity of Geleen, if I remember correctly that 1500kg or not?

And then on this licensing fees; there is an upfront payment of EUR5 million, which has already been done in 2022; were is that for because the press release of Origin also says it is an additional payment so you have EUR 7.5 million and then EUR 5 million so is it in total then EUR 12.5 million. Is that then an upfront payment for license or is that for royalties?

**Tom van Aken (CEO Avantium):** Ok, Fernand good morning; and thank you for your words and questions. Let me go to the first question; basically what Origin has done so far, they have constructed what they call OM1, that is a plant that they are building in Sarnia in Canada. That has a capacity of 25kt that is input or feedstock and the output is 5kt of CMF but that is not sufficient to feed into the license facility that they intend to build with using our YXY technology. So that is material that will come from future plants

**Fernand de Boer (Degroof Petercam):** When is the OM 2 coming into production then?

**Tom van Aken (CEO Avantium):** That facility is going to be built in Geismar in Louisiana, and we have to be careful with what we are saying on behalf of Origin, so it's up to Origin to make announcement regarding the timing of OM2 and of the licensed facility. That is not something that we comment on. Of course, we have our own experience with this how long these things take, so this is not something that is going to happen over the next few years, but this is probably going to take a bit longer, but that is up to them to make further announcements on.

Do they have the financial resources? I think, Origin has been a company that through their SPAC listing has been able to raise a lot of capital including the construction of OM1 but they have also secured, or they have access to significant funding, through debt financing that you can also find on their website. So they are well financially equipped to be executing their strategy.

Next question is on our pilot plant in Geleen; that has a capacity of about 10 tons per year so not the 1500 kilos that you refer to earlier.

And then on the license fee; the EUR 5 million payment was an upfront payment to initiate the due diligence. The other payments are milestone payments. I think we have always been explaining that this is how these deals work. Typically these upfront payments are connected to certain milestones. That is also how it is going to be done here. And in addition to that, they will pay us a royalty fee that we have also referred to in our press release. So indeed part of the license will be paid through milestone payments upfront, and part will be done through a royalty rate on each metric ton that is produced at their licensed facility.

**Fernand de Boer (Degroof Petercam):** But for sure, it is EUR 12.5 million now coming in, and EUR 5 million already received and then EUR 7.5 million.

**Tom van Aken (CEO Avantium):** Sure the EUR 7.5 million is related to entering into the technology license agreement. And then there will be other milestone payments related to other milestones that we will be pursuing. And I think that we have said in the past that typically these things are related to when you have done the engineering, when you enter into construction, when you complete construction. So these are the type of milestones that you should be thinking of.

**Fernand de Boer (Degroof Petercam):** Ok. Very well.

**Tom van Aken (CEO Avantium):** It's all in line with industry standards Fernand.

**Operator:** The next question is from the line of Reg Watson ING: Your question please.

**Reg Watson (ING):** Morning all; again this is the second time I send my congrats in a short period of time. I have a few questions; about five. I'll go through them one by one if I may.

Just initially, the feed and the engineering construction design, who is the engineering partner on that? Will it be Worley?

**Tom van Aken (CEO Avantium):** If you look at the engineering phase, the only part for execution of engineering that we are responsible for is the PDP. So you know we are working with Worley so I think that is something that is logical.

We are not making any communications about the FEED and EPC of the licensed facility, Reg, that is up to Origin if that's what you are asking.

**Reg Watson (ING):** That was what I was saying indeed. Ok thank you. Then in terms of your expectations for time to start I appreciate Origin will have their own release. But I think you must have your internal expectations of how long it's going to take for this whole process to reach first FDCA and PEF out from the 100kt plant. What would that expectation be?

**Tom van Aken (CEO Avantium):** Yes, so we are a bit reluctant here to talk about dates, given that that is not something we are going to be executing on, but that is really Origin that will have to deliver on that. So I think that you can probably understand that we are cautious here, Reg. But if you would assume approximately 1 to 2 years of what we call the technology bridge developments, followed by one or 2 years of engineering and let's say two years of construction, that are the typical timelines that we have in our experience but again we do not deliver on that. That is something very much in the hands of Origin. And we expect them to in due course make further statements on this.

**Reg Watson (ING):** Ok, and do you think given the timescales involved for Origin, do you think this could catalyze other potential licensees to leapfrog and get a head-start on Origin with perhaps the conventional YXY route to PEF because the timelines will be a lot shorter than what you have just outlined.

**Tom van Aken (CEO Avantium):** Well I Think Reg, the first thing I want to say is selling the first license is always the most difficult part so in that sense we are very pleased that we have the first partner in that has come to this point which is in all fairness significantly earlier than what we have anticipated. I think it would not be very appropriate to mention statements about other potential licensees given that this morning we are coming out with our first license sold to Origin. But let me be very clear that we do expect that there are going to be multiple companies that are going to be in the business of producing FDCA and PEF on a large scale and that will require to buy a license from Avantium. And if they can do that faster than Origin, that is something that we will have to see. Of course if you would start with fructose syrup of course that is something where the development timeline is somewhat shorter. But I think most of these companies look at this in the long term. So in that sense it is a bit premature to make any statements about how they would be looking at that.

**Reg Watson (ING):** And who asked for the take-or-pay on the offtake contract. Is that you or Origin?

**Tom van Aken (CEO Avantium):** Well that is something that we have agreed; I think, we wanted to make sure that we have a good solid basis for the offtake to load the flagship facility. They of course need to have this material to build the market because they will come out with much larger volumes in due course.

So in that sense I think it something that is helping us. As we said we have a fully validated business case, so I think in that sense, we are very pleased that they have also agreed to commit to buying that volume from us.

**Reg Watson (ING):** Was it them who wanted to buy the volume from you or you that wanted to sell the volume to them?

**Tom van Aken (CEO Avantium):** I think it came from both sides, so in that sense the drivers were totally aligned.

**Reg Watson (ING):** Ok, and then I like to come on to the slightly more chemistry part of it. You mentioned a sort of bridge period. Could you take us through the work still needs to be done to go from CMF to FDCA. because obviously your precursor you're running through an MMF route and CMF is a little different designed.

**Tom van Aken (CEO Avantium):** This is what we call the technology bridge. What both companies want to do is to make sure that we have the most cost effective way to go from CMF basically to go to FDCA. There are multiple chemistries that can be pursued so we want to make sure that we pick the most appropriate chemical route. That is what we will be working on together. Of course given that this is also something that is IP sensitive, we are very reluctant to share more detail on exactly how that chemistry will look like. But I think there is a very clear common objective from both companies to find the most effective bridge between Origin's technology and our technology.

**Reg Watson (ING):** Ok, without giving the game away, I guess, I'm presuming this is new and presumably is already working in the lab but it's not tried at pilot, Flagship or industrial level for this type of process. So could you take us through perhaps the risks here; on the one end of the scale CMF to FDCA doesn't work at all at industrial scale, on the other hand it's been tried proven tested so you can almost do it tomorrow. So I like to understand where in between these two extremes the engineering chemistry challenges lie.

**Tom van Aken (CEO Avantium):** I think you know we have quite some experience with this type of chemistry and Origin also has a lot of experience, so in that sense, the judgement of both companies is that this is not a difficult conversion to go from their chemistry to ours. In that sense very low risk. We just want to make sure we pick the most effective way which is effectively meaning not only the highest yields but also the lowest capex for producing that.. I don't think that both companies are concerned about a chance that this might fail, I think we just want to make sure we do it in the best possible way and in the most appropriate way. And as you rightfully point out, of course certain things have been tested at lab scale but ultimately certain things need to be tested on pilot scale and you need to engineer it, so therefore I think, basically this takes a bit of time. That is of course something we have to factor in into the timeline of when this licensed plant is coming on stream.

**Reg Watson (ING):** Will you be able to pilot it in Geleen or not?

**Tom van Aken (CEO Avantium):** We do expect that that is going to be possible.

**Reg Watson (ING):** That is good to know, the physical facilities are available for piloting straight away. And then coming on to efficiency, Avantium is no stranger to 2G sugars, 2G glucose from biomass and you have chosen previously to go down a different route with the Dawn technology and I believe you are well aware of the cost profile let's say of perhaps the route Origin that is pursuing, so does that create an issue with higher feedstock prices for Origin's project as in does CMF to PEF ultimately result in more costly product produced than fructose to PEF?

**Tom van Aken (CEO Avantium):** Our YXY Technology to make FDCA is something that we call feedstock agnostic, meaning that we are able to use different types of feedstock. Not only fructose syrup but also 2G sugars. I think if you look at our Dawn technology, it is an alternative route and in that sense we have always been clear that if there are other 2G technologies available in the market, that we will pursue them. We want to make sure we are open to multiple process technologies as we think multiple process technologies will be practiced around the globe. And obviously Origin is very far with developing and commercializing and scaling their CMF technology so I think in that sense it is very logical that we partner with them. But we do not exclude other types of 2<sup>nd</sup> generation technologies in the future.

**Reg Watson (ING):** I didn't quite get there, which is ultimately is PEF produced via Origins technology going to be more expensive to manufacture than PEF produced using fructose.

**Tom van Aken (CEO Avantium):** Sorry, you were comparing PEF produced through 2<sup>nd</sup> generation technology versus;

**Reg Watson (ING):** to the current route to market you have for PEF.

**Tom van Aken (CEO Avantium):** We are not in the position right now to make statements about the costs of making PEF from the route that Origin is pursuing versus other routes including our fructose route. It is Origin that is in the driver's seat to determine the sales price of PEF that is going to be produced on the basis of their CMF. We think that ultimately economies of scale will really drive down the cost of making FDCA and PEF which is good for market adoption. I think we have been talking about this before. Subsequently, it is up to our licensees to set the price for it.

**Reg Watson (ING):** Ok, and then finally, Boudewijn, I didn't want to address everything to Tom. You mention that the royalty range is well within 3-6% range mentioned in the IPO prospectus. Can I take the emphasis of 'well within' means you are not anywhere near the boundaries of that 3 to 6%.

**Boudewijn van Schaik (CFO Avantium):** Thank you for the question. You gave me a nice one to answer. It is your assumption. And I think we need to stick with that it is within industry standards and that it is well within that range.

**Reg Watson (ING):** Yeah, sorry but that may be my assumption but language is a curious thing. I wanted to clarify why you didn't chose the words 'within that range' but you chose the words 'well within that range'. For me as a native English speaker that means nowhere near the edge of that range.

**Boudewijn van Schaik (CFO Avantium):** I would say a native English assumption you should stand by.

**Operator:** The next question is from the line of Paul de Froment with Bryan Garnier. Your question please.

**Paul de Froment (Bryan Garnier):** Good morning everyone. And congratulations. Two questions for me. First regarding milestones. How many more milestones could we expect over 2023 and 2024? And will these milestones, will happen you mentioned, meaning that, it will be milestones are around EUR 5m to EUR 7.5m or will they be increasing milestones? Thank you.

**Boudewijn van Schaik (CFO Avantium):** Good morning and thank you for your questions. Again, it is very sensitive for us to disclose exact numbers and quantities. So we need to stick to our guidance of within industry standards in terms of number of milestone payments which are obviously coupled to the progress of the construction of the licensed plant. In terms of the dollar quantum, between 5 and 7 is indeed the starting point in terms of the payments received earlier in 2022 and the amount

we will receive to date. Again, there, we can't really say anything about the size of the future payments other than again what you would normally expect in terms of these license payments.

**Paul de Froment (Bryan Garnier):** Ok thank you.

**Tom van Aken (CEO Avantium):** And Paul, I think what is important to highlight because we have given previous guidance about these types of deals about, you know, a typical royalty rate of 3-6%. I think it is good for everyone to realize that, that 3-6% assumes that everything is going to be paid as a royalty. And of course if you have certain payments that are coming in as milestone payments earlier on, that is something that you have to factor in into what that royalty rate ultimately is. So I think that is something I want to bring up before you guys add everything up. So, the milestone payments that we get upfront is something very interesting because it helps us in terms of our cash liquidity over the coming years. But ultimately it is also something you have to see as how much is paid upfront versus how much is paid through royalties.

**Paul de Froment (Bryan Garnier):** Very clear thank you.

**Operator:** The next line is from the line of Patrick Roques with Kepler Cheuvreux. Your question please.

**Patrick Roquas (Kepler Cheuvreux):** Good morning gentlemen and thanks for taking my question and also congratulations on this achievement. How do subsequent license fees relate to the initial fee that you now receive of EUR 7.5m; that's my first question. And then the second one, although very good news, I think, it was also to me a bit of a surprise because I would have expected the first license agreement of let's say a retrofit of an existing plant producing FDCA. And then thirdly, does the license fee have any implications for overall financing meaning that we all know about your ambitions to finance other technologies. And then finally, a stupid question, but I assume the license fee of EU 7.5m includes the upfront payment or is that on top of it? Thank you.

**Tom van Aken (CEO Avantium):** The subsequent license fees, we spoke about already. Boudewijn basically said that we are not in the position to give you more guidance than what we have said before. So this is tight to regular milestone that we previously spoke about in deals like this. But the exact number of upfront payments is not something that is disclosed, also not in terms of the dollar value, so that is not something that we can give further guidance on.

You are surprised that we thought we would be using an existing facility, a retrofit. I know very well that this is what we have been talking about in the past. Rest assured, we still think this is something that is viable for the future.

The license fee; you asked, how does it relate to the financing of other technologies. Of course the license fees or the upfront payments and ultimately these royalty fees will help the liquidity of the company. We do not make any statements on how we are using that money at this moment. It is something I propose to come back to that question when we have the annual results call in March because otherwise, I think I am going to step over what we are allowed to talk about during the closed period.

Last point is the EUR 5m and EUR 7.5m. Those are, so EUR 5m was paid in 2022, and the EUR 7.5m is what we expect basically now that we have executed the technology license agreement, they are going to pay us an additional EUR 7.5m, so in total they will have paid us EUR 12.5m.

**Patrick Roquas (Kepler Cheuvreux):** That's very clear, very helpful. Thank you Tom.

**Operator:** Next question is from the line of Daniel Delodder with ABN. Your question please.



**Daniel Delodder (ABN AMRO):** Yes, good morning all. Following up on the technology question asked by Reg, I'm wondering if you are aware if Origin has not proceeded with its technology to develop FDCA and are you aware of the reason why?

**Tom van Aken (CEO Avantium):** I think that is actually something for us that is hard to answer, I think, you know Origin has always looked into FDCA and PEF as an outlet for CMF. They have now concluded that the best way forward to access this field is to enter into a partnership and technology license with Avantium. And that is also something that we believe is highly logical given the state of the technology that we have developed and the dominance in the intellectual property position we have in this space. So if you are new in this, and it is not an easy field to get into without infringing patents of companies such as us, and I think therefore to enter into this agreement was more logical for them.

**Daniel Delodder (ABN AMRO):** Yes. That's clear, thanks.

**Operator:** The next question is from the line of Andres Castanos with Berenberg. Your question please.

**Andres Castanos (Berenberg):** Good morning, congratulations with the announcement. Hopefully it is the first one of many licensing agreements. My question is about costs; do you expect the need to add any new skills to the team particularly regards to the Americas maybe at a later stage? Or do you have all the capabilities inhouse for engineering and design. Thanks you.

**Tom van Aken (CEO Avantium):** Thank you Andres. So I think we are well equipped to develop the technology bridge that we spoke about before. And I think, I just want to repeat, we can also use our pilot plant in Geleen actually for demonstrating the chemistry on larger scale. Of course you are totally right, that is just looking at the chemistry side. Then we have the engineering side. That is clearly something that the company will have to expand as we enter into these partnerships. This is exactly the strategy of the company, so this is what we have been aiming for. But we certainly plan to extend our engineering and licensing organization in order to meet the demands of companies like Origin. So certainly that is something that we have been planning for. Given that where we are now, we already have an engineering team for our own Flagship facility so we think from a skillset perspective we are in a good spot but we will further need to strengthen the team in order to manage the partnerships such as with Origin.

**Andres Castanos (Berenberg):** That's great, thank you very much. This is it from my side.

**Operator:** the next question is from the line of Fernand Boer with Degroof Petercam. Your question please.

**Fernand de Boer (Degroof Petercam):** At what level are these incomes going to drop and these costs are going to fall? Is that on Renewable Polymers or is that on holding?

**Boudewijn van Schaik (CFO Avantium):** Thanks Fernand; So indeed, all of these agreements and the financial impacts are all within the Renewable Polymers business.

**Fernand de Boer (Degroof Petercam):** Ok, thank you very much.

**Operator:** there are no further questions and I hand back to Tom van Aken for closing remarks.

**Tom van Aken (CEO Avantium):**

Thank you for your questions and listening in. I hope you share our excitement. Of course, we're available for any other questions you may have. Please feel free to reach out to us and we'll be happy to provide more information wherever it's needed. Thank you everyone and have a nice day.