

Avantium Announces 2022 Results

Strong progress on delivering on our strategic goals and the commercialisation of our proprietary technologies

AMSTERDAM, 22 March 2023, 07:00 hrs CEST - Avantium N.V. (Euronext Amsterdam and Brussels: AVTX), a leading technology company in renewable chemistry, today reports its 2022 full-year results.

Key Business Progress in 2022:

- For Avantium Renewable Polymers, 2022 was a breakthrough year:
 - The conditions for Financial Close were achieved, including a €90 million Debt Facilities Agreement, which allowed Avantium to begin construction of the FDCA (furandicarboxylic acid) Flagship Plant;
 - Construction of the FDCA Flagship Plant in Delfzijl is progressing well, with commercial production set to start in 2024;
 - Eight new offtake agreements for FDCA and PEF (polyethylene furanoate) were secured in 2022 and early 2023 with well-known brand owners and industry leaders including Carlsberg, LVMH, AmBev and Henkel. In addition, Avantium announced this morning that it has signed an offtake agreement with Kvadrat. In total 14 offtake agreements for a wide range of applications have been signed;
 - The first industrial technology license agreement for YXY[®] Technology was signed with the US-based company Origin Materials ahead of original expectations;
- In Avantium Renewable Chemistries, operations of Ray Technology[™] are back on track after a temporary pause in 2021 and preparations to scale-up to a commercial facility for plantMEG[™] (mono-ethylene glycol) and plantMPG[™] (mono-propylene glycol) have begun;
- For Volta Technology, two demonstration units have been successfully trialled at industrial sites in Germany and Greece;
- Avantium R&D Solutions (formerly known as Avantium Catalysis) has adopted a new growth strategy focusing on R&D solutions for sustainable chemistry, in addition to its existing offering; total revenues for Avantium R&D Solutions improved by 13%, compared with 2021, to €11.3 million.

Key Financial Developments in 2022:

- Total revenues increased by 63% to €17.8 million (FY 2021: €10.9 million), predominantly due to the payment of €5.0 million received from Origin Materials in 2022 as part of the transaction announced in February 2023. Other Income from government grants increased by 14% to €7.6 million (FY 2021: €6.7 million), primarily related to the start of the construction of the FDCA Flagship Plant;
- Net operating expenses were €43.1 million in 2022 (FY 2021: €33.7 million), increasing primarily due to the planned increase in FTE during 2022, costs associated with new patent filings, and legal and advisory expenses related to Financial Close, the Equity Raise, and the Debt Facilities Agreement entered into for the financing of the FDCA Flagship Plant;
- Cash at 31 December 2022 was €64.9 million (31 December 2021: €34.9 million):
 - The increase in the cash position was due to the successful capital raise of €41.6 million (net proceeds) by means of a public offering of shares in Avantium N.V. in April 2022, a €20.0 million cash investment in Avantium Renewable Polymers B.V. from Bio Plastics Investment Groningen in March 2022, and the first drawdown of €15.0 million under the Debt Facilities Agreement in November 2022;
 - Net cash outflow¹ in 2022 was €46.6 million (FY 2021: €18.1 million), primarily related to planned investments in the engineering and construction of the FDCA Flagship Plant;
- The loss for the period was €31.6 million (2021: €24.4 million).

Tom van Aken, Chief Executive Officer of Avantium, commented: "I am very proud of what Avantium has accomplished in 2022, a transformational year for the company - evolving from a company primarily focused on R&D towards one with large-scale manufacturing and commercialisation capabilities. The start of the construction of our FDCA Flagship Plant was a significant milestone, and will enable the commercial launch of our plant-based, recyclable and high-performance polymer PEF to customers worldwide. We continue to

¹ Excluding Financial Close proceeds, the Equity Raise, and drawdowns under the Debt Facilities Agreement

see robust demand for FDCA and PEF as illustrated by us signing nine new FDCA and PEF offtake agreements with major brand owners for a range of applications. The FDCA Flagship Plant is a key component of our YXY[®] licensing strategy and the progress in constructing this facility was an important catalyst in establishing the recently announced transactions with Origin Materials to accelerate the mass production of FDCA and PEF. We have now clearly demonstrated the exciting potential to license our proprietary technologies and continue to make encouraging progress in this regard."

Business Overview

Avantium Renewable Polymers

For Avantium Renewable Polymers, home to the YXY[®] Technology, 2022 was the breakthrough year. Having confirmed our positive Final Investment Decision for the world's first FDCA Flagship Plant in December 2021, and having received the support of Avantium's shareholders at an Extraordinary General Meeting in January 2022, we achieved the conditions for Financial Close on 31 March 2022, paving the way for construction to begin.

Upon Financial Close, our engineering partner Worley and investment partner Bio Plastics Investment Groningen (formerly the Groningen Consortium) became minority shareholders in Avantium Renewable Polymers B.V.. They now own a combined share of 22.6% in the entity, while Avantium N.V. retains 77.4% of the equity. Avantium Renewable Polymers received a €20 million cash investment from Bio Plastics Investment Groningen at Financial Close. Worley's €10 million equity investment in Avantium Renewable Polymers is structured as (i) an investment in kind and (ii) a 50%-50% risk-sharing mechanism over the engineering, procurement and construction (EPC) phase of the FDCA Flagship Plant.

At Financial Close, Avantium also entered into a €90 million Debt Facilities Agreement with a consortium of Dutch banks, comprising ABN AMRO Bank, ASN Bank, ING Bank and Rabobank, as well as with the Dutch government-backed impact investment fund Invest-NL. Each bank has committed €15 million, and Invest-NL has committed €30 million under the Debt Facilities Agreement. In November 2022, the first drawdown of €15 million under the Debt Facilities Agreement took place.

The construction of the FDCA Flagship Plant is progressing well. By the end of 2022, more than 700 piles had been driven into the ground and the civil works had been completed, including installing the foundations, floors, piping, roads and walls. In addition, a significant portion of the steel construction and storage tanks have already been erected. After a thorough review of the project execution plans and the expected delivery and installation of equipment, mechanical completion of the FDCA Flagship Plant is now expected in the first quarter of 2024.



Avantium secured nine new offtake agreements for FDCA and PEF in 2022 and 2023, taking the total to 14. Our new customers include LVMH Group (cosmetics packaging), Sukano (masterbatches), Carlsberg (drinks packaging), AmBev (soft-drink bottles), Monosuisse (industrial yarns), Henkel (adhesives), Origin Materials (sustainable chemicals and materials), Kvadrat (interior textiles) and an undisclosed brand owner. Prior to 2022, Toyobo (films), Terphane (food packaging), Refresco (drinks packaging) and Resilux (packaging) were among those who had already signed offtake agreements.

Bottles	   	
Film		
Fibre		
Other	 	  

Over the summer, Carlsberg tested 8,000 of its PEF-lined Fibre Bottles in a real-world setting, putting PEF in the hands of consumers for the very first time. Avantium also launched a new PEF Textile Community in June 2022, together with Antex (a producer of yarns made from PEF) and four other partners who will use Antex's yarn to develop PEF fabric applications in different market segments, including industrial fibres, sportswear and fashion clothing. We aim to collaborate with and learn from one another to further develop the application of PEF in the textile industry.

In February 2023, Avantium entered into its first industrial technology license agreement with Origin Materials, having already received a non-refundable payment of €5 million for technical due diligence performed by Origin Materials in 2022. More information on this transaction can be found under 'Events occurring after 31 December 2022' on page 11 of this press release.

Avantium Renewable Chemistries

Avantium Renewable Chemistries develops and commercialises innovative chemistry technologies based on viable, non-fossil sources of carbon. The business unit is home to three technologies: Ray Technology™, Dawn Technology™ and Volta Technology.

In the first half of 2022, Avantium restarted the Ray demonstration plant as operations had been temporarily paused. The plant operated successfully throughout the rest of the year, generating important data to inform the engineering plans for the proposed Ray Technology™ Flagship Plant. This industrial-scale plant is planned to be constructed as part of a joint venture with the sugar manufacturer (and feedstock supplier) Cosun Beet Company. Discussions are underway with interested partners to prepare for commercial validation and to potentially establish offtake agreements for this Ray Technology™ Flagship Plant. Cosun Beet Company and Avantium are still in the process of selecting the optimal site in Northwest Europe for the construction and operations of the commercial facility. Meanwhile, Avantium has also initiated activities to explore additional partnerships using other feedstock sources and targeting markets outside of Europe.

In 2022, Avantium continued optimising its Dawn Technology™, a promising solution for de-fossilising the chemical industry through the conversion of agricultural and forestry residues to high-value chemicals and materials. Further progress was made on new feedstock testing during the year, in particular with cotton/polyester blends in waste textiles, which make up the highest volume of non-recyclable waste textiles. Avantium's Dawn Technology™ converts cotton (cellulose) into glucose, liberating the polyester for recycling.

2022 was an exciting year for Volta Technology, Avantium's carbon capture and utilisation (CCU) solution focusing on the conversion of CO₂ to formic acid, oxalic acid and glycolic acid. In January 2022, Avantium installed a mobile Volta Technology container unit at a power plant in Germany. This mobile unit – containing the largest cell of this type of technology anywhere in the world – operated successfully until the close-out in October 2022, converting CO₂ into formate at a rate of 250–500 g/hour for more than 1,000 hours. A second CCU unit was deployed at a Titan cement plant in Greece, using waste CO₂ to make formic acid that can then be added into the cement to improve its quality. The success of this unit is particularly encouraging as it produces formic acid in a more cost-efficient way, hosting two chemical reactions in a single cell. In May 2022, Avantium was awarded a €3 million grant by the EU Horizon Europe programme as part of its involvement in the WaterProof consortium². Under this four-year programme, which aims to demonstrate the full value chain of a closed carbon cycle, Avantium's Volta Technology is being used to convert CO₂ from wastewater purification and waste incineration into formic acid. This formic acid can then be used to make new consumer products.

Avantium R&D Solutions

In 2022, the Avantium Catalysis business unit launched a new strategy and a new name – Avantium R&D Solutions – marking a strategic shift towards R&D in sustainable chemistry. As well as continuing to provide advanced catalysis systems and services to customers around the world, Avantium R&D Solutions has expanded its business focus into four sustainable chemistry markets: i) green hydrogen via water electrolysis, ii) chemical plastic recycling via pyrolysis, iii) adsorption and iv) sustainable chemical building blocks. At the end of 2022, Avantium R&D Solutions had already secured the first commercial contracts for custom-made units for adsorption and chemical conversion, and expects to gain more contracts in 2023.

Meanwhile, Avantium R&D Solutions' existing business including the Flowrence[®] technology (proprietary catalyst testing) and Batchington unit (small-scale, multiple-parallel batch testing), together with R&D Services, continues to develop. In 2022, revenues generated by Avantium R&D Solutions grew 13% to €11.3 million (FY 2021: €10.0 million).

Patents

Avantium has 156 patent families containing more than 900 patent rights. Last year, 24 new patents were granted to Avantium, for YXY[®] Technology (16), Ray Technology[™] (3), Dawn Technology[™] (4) and our early-stage technologies developed by our Corporate Technology team (1). This very active patenting strategy not only helps safeguard Avantium's leading position as a technology development company and a frontrunner in renewable chemistry, but also plays a pivotal role in our licensing strategy.

Equity Raise 2022

On 14 April 2022, Avantium successfully raised €45 million (gross proceeds) by means of a public equity offering with a priority allocation for its existing shareholders, a retail offering and a private placement. The company issued 11,250,000 new shares, which represented c. 36% of the issued share capital. Pricing of the capital increase was fixed at €4.00 per share, a 20% discount versus the previous closing price.

Organisation

Management Board Composition

In an Extraordinary General Meeting on 30 November 2022, Avantium's shareholders confirmed the appointment of Boudewijn van Schaik to the position of Chief Financial Officer and member of the Management Board, effective 1 January 2023 and until the Annual General Meeting in 2027.

Supervisory Board Composition

Cynthia Arnold and Trudy Schoolenberg resigned from the Supervisory Board for personal reasons in March 2022 and August 2022, respectively. At the end of 2022, the Supervisory Board comprises Edwin Moses (chair), Margret Kleinsman, Michelle Jou and Nils Björkman. In early 2023, Avantium nominated Dirk Van Meirvenne and Peter Williams for the Supervisory Board, bringing the percentage of women in the Supervisory Board to 33%. The Supervisory Board will propose their appointments to the Annual General Meeting on 10 May 2023.

People

To support the further development of Avantium and to access the new skill sets necessary as we move towards large-scale manufacturing and licensing, the Avantium workforce increased by 16.30% over 2021, to a total of 264 people at the end of the year.

² Grant number 101058578 provided by the Horizon Europe Framework Programme.

Financial results

The Avantium 2022 financial statements have been prepared on a going concern basis.

Income Statement

In 2022, Avantium's consolidated revenues increased by 63% to €17.8 million (FY 2021: €10.9 million).

In 2022, income from government grants increased by 14% to €7.6 million (FY 2021: €6.7 million). The higher grant income recognition was predominantly in Avantium Renewable Polymers coming from previously awarded grant programmes (PEference³, IMPRESS⁴, and DEI+⁵) and is related to the progress made in connection with the start of the construction of the FDCA Flagship Plant. Avantium successfully secured an additional grant in 2022, to support its participation in the four-year R&D programme WaterProof⁶.

Net operating expenses amounted to €43.1 million in 2022 (FY 2021: €33.7 million). This increase is mainly the result of the planned increase in staffing during 2022. In addition, patent, license, legal and advisory costs increased as a result of the professional and advisory services received in relation to the Equity Raise, Financial Close, and the Debt Facilities Agreement.

Total EBITDA decreased in 2022 to €-17.7 million (FY 2021: €-16.1 million). In Avantium R&D Solutions, there was a decrease in EBITDA for 2022 as a result of higher costs in raw materials and contract costs as well as higher employee benefit expenses due to a planned increase in FTE throughout the year. In Avantium Renewable Chemistries, the EBITDA decreased due to lower income from government grants and lower revenues. Avantium Renewable Polymers showed an improved EBITDA in 2022 as a result of higher revenues, which were partly offset by an increase in costs. The higher costs were predominantly related to expenditures incurred for the partial divestment in Avantium Renewable Polymers in March 2022 and higher legal and advisory services in relation to Financial Close, the Equity Raise, and the Debt Facilities Agreement, as well as an increase in costs related to support activities contracted from Avantium, including HR, Finance and Legal services.

Avantium's net loss for 2022 increased to €31.6 million (FY 2021: €24.4 million) due to the lower EBITDA and higher depreciation and finance costs.

Balance Sheet and Financial Position

The balance sheet total assets increased to €162.0 million (2021: €77.7 million). Total net equity increased to €91.2 million (2021: €50.0 million).

Avantium's cash position (including restricted cash) was €64.9 million at 31 December 2022 (31 December 2021: €34.9 million). During 2022, Avantium's cash position improved substantially as a result of a number of extraordinary transactions that took place during the year. Firstly, the successful capital raise by means of a public offering of shares in Avantium N.V. that took place in April 2022, which generated net proceeds of €41.6 million. In addition, Avantium Renewable Polymers received a €20.0 million cash investment from Bio Plastics Investment Groningen for the shareholding it acquired in Avantium Renewable Polymers. Furthermore, in November 2022, the first drawdown of €15.0 million under the Debt Facilities Agreement for the FDCA Flagship Plant took place.

Avantium's cash outflow increased by €28.5 million (excluding extraordinary cash inflows related to equity and debt) to €46.6 million in 2022 (FY 2021: €18.1 million). The cash outflow in 2022 mainly related to a €38.1 million increase of planned investments in capital expenditure for the engineering and construction of the FDCA Flagship Plant.

³ PEference is a consortium of organisations aiming to replace a significant share of fossil-based polyesters with the 100% plant-based PEF. The PEference project has received funding from the Circular Bio-based Europe Joint Undertaking (CBE JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 744409.

⁴ IMPRESS (grant agreement No 869993) is a consortium of ten organisations aiming to demonstrate a new biorefinery concept based on integrating novel processes such as Avantium's Dawn and Ray Technologies.

⁵ With the Demonstration Energy and Climate Innovation (DEI+) scheme, the Netherlands Enterprise Agency (RVO - Rijksdienst voor Ondernemend Nederland) financially supports projects that contribute to a cost-effective reduction of CO₂ emissions by 2030.

⁶ The WaterProof consortium is a four-year programme, which aims to demonstrate the value of electrochemical conversion of carbon dioxide (CO₂) into high-value chemicals and products.

The increased capital expenditure was partially compensated by a net-positive movement of €17.0 million in working capital (2021: €3.2 million). The positive movement in working capital is the result of an increase in trade and other payables related to invoices received in December for capital investments in the FDCA Flagship Plant. Furthermore, Avantium received pre-financing for a number of grant programmes during 2022, for which most of the work is yet to be performed.

in millions of €	2022	2021
Cash position at the beginning of the year	34.9	26.6
EBITDA	(17.7)	(16.1)
Lease payments	(1.9)	(1.7)
Working capital movement	17.0	3.2
Capital expenditures	(43.4)	(5.3)
Interest and commitment	(1.5)	—
Other	1.0	1.7
Net cashflow used in operating, investing and financing activities	(46.6)	(18.1)
Net proceeds from Capital raise	41.6	26.4
Transaction with non-controlling interest	20.0	—
Proceeds from Borrowings	15.0	—
Net increase/(decrease) in cash and cash equivalents	30.0	8.3
Cash position at the end of the year	64.9	34.9

Consolidated statement of comprehensive income

<i>in Euro x 1,000</i>	2022	2021
Revenues	17,826	10,917
Other income	7,626	6,686
Total revenues and other income	25,452	17,603
Operating expenses		
Raw materials and contract costs	(3,770)	(3,042)
Employee benefit expenses	(23,401)	(19,226)
Office and housing expenses	(3,062)	(1,968)
Patent, license, legal and advisory expenses	(6,766)	(4,312)
Laboratory expenses	(3,272)	(2,864)
Advertising and representation expenses	(1,329)	(707)
Other operating expenses	(1,538)	(1,568)
Net operating expenses	(43,138)	(33,687)
EBITDA	(17,687)	(16,084)
Depreciation, amortisation and impairment charge	(8,578)	(7,837)
EBIT	(23,921)	(22,504)
Finance income	12	2
Finance costs	(2,459)	(497)
Fair value remeasurement	(2,841)	—
Loss before income tax	(31,554)	(24,416)
Income tax expense	—	—
Loss for the period	(31,554)	(24,416)
Other comprehensive income	—	—
Total comprehensive expense for the year	(31,554)	(24,416)
Loss attributable to:		
Owners of the parent	(29,583)	(24,416)
Owners of Non-controlling interest	(1,970)	—
	(31,554)	(24,416)
Total comprehensive expense attributable to:		
Owners of the parent	(29,583)	(24,416)
Owners of Non-controlling interest	(1,970)	—
	(31,554)	(24,416)

Consolidated balance sheet and financial position

in Euro x 1,000	2022	2021
ASSETS		
Non-current assets		
Property, plant and equipment	60,394	23,324
Intangible assets	1,974	1,835
Right-of-use assets	9,945	9,479
Non-current prepayments	15,248	—
Total non-current assets	87,561	34,638
Current assets		
Inventories	1,567	1,238
Trade and other receivables	8,035	6,888
Cash and cash equivalents	64,870	34,911
Total current assets	74,472	43,037
Total assets	162,033	77,675
EQUITY		
Equity attributable to owners of the parent		
Ordinary shares	4,261	3,129
Share premium	270,829	230,252
Other reserves	12,785	11,936
Accumulated losses	(206,747)	(195,291)
Total equity attributable to the owners of the parent	81,128	50,026
Non-controlling interest	10,042	—
Total equity	91,170	50,026
LIABILITIES		
Non-current liabilities		
Borrowings	12,856	—
Financial liability	14,091	—
Lease liabilities	10,046	9,099
Total non-current liabilities	36,993	9,099
Current liabilities		
Lease liabilities	1,897	1,604
Trade and other payables	31,738	16,750
Provisions for other liabilities and charges	236	196
Total current liabilities	33,870	18,550
Total liabilities	70,863	27,649
Total equity and liabilities	162,033	77,675

Consolidated statement of cash flows

in Euro x 1,000	2022	2021
Cash flows from operating activities		
Loss for the year from continuing operations	(31,554)	(24,416)
Adjustments for:		
– Depreciation of property, plant and equipment	5,721	5,778
– Amortisation	35	56
– Depreciation of right of use assets	2,387	2,003
– Share-based payment	809	1,711
– Finance costs - net	2,448	495
– Non cash portion of onerous contract reversal	—	—
– Impairment of property, plant and equipment	435	22
– Lease adjustment	—	28
Changes in working capital (excluding exchange differences on consolidation):		
– (Increase)/decrease in inventories	(329)	(12)
– Decrease in trade and other receivables	(1,422)	456
– Increase/(decrease) in trade and other payables	18,728	1,429
– Increase in provisions	40	51
	139	(12,398)
Interest paid on current accounts	—	(120)
Interest received on current accounts	12	2
Other interest and bank charges	(1,554)	(94)
Net cash used in operating activities	(1,404)	(12,610)
Cash flows from investing activities		
Purchases of property, plant and equipment (PPE)	(43,226)	(3,926)
Purchases of intangible assets	(174)	(6)
Transaction with non-controlling interest	20,002	—
Net cash used in investing activities	(23,399)	(3,932)
Cash flow from financing activities		
Net proceeds from Capital raise	41,552	26,376
Net proceeds of option exercises	158	117
Proceeds from Borrowings	15,000	—
Principal elements of lease payments	(1,947)	(1,663)
Net cash generated from/(used in) financing activities	54,762	24,830
Net increase/(decrease) in cash and cash equivalents	29,959	8,288
Cash and cash equivalents at beginning of the year	34,911	26,626
Effect of exchange rate changes	(1)	(2)
Cash and cash equivalents from continuing operations at end of financial year	64,870	34,911
Cash and cash equivalents at end of financial year	64,870	34,911

Segment information

EBITDA

EBITDA is an important measure for the company as it measures the financial performance before taking the cost of capital, depreciation and taxes into consideration. EBITDA margins provide a view on the operational efficiency and a more accurate and relevant comparison between peer companies.

The EBITDA figures of the company segments are as follows.

(In Euro x 1,000)	2022	2021
R&D Solutions	2,326	2,705
Renewable Chemistries	(3,624)	(2,320)
Renewable Polymers	(6,917)	(7,094)
Total EBITDA of business segments	(8,215)	(6,708)

Revenues per segment

Revenue is only generated from external customers and excludes intercompany transaction between segments. No transactions with other segments have taken place.

(In Euro x 1,000)	2022	2021
R&D Solutions	11,301	10,029
Renewable Chemistries	100	500
Renewable Polymers	6,056	388
Unallocated items	369	0
Total segment revenue	17,826	10,917

Other income per segment

(In Euro x 1,000)	2022	2021
R&D Solutions	279	279
Renewable Chemistries	3,536	3,610
Renewable Polymers	3,660	2,683
Unallocated items	150	114
Total segment other income	7,626	6,686

Reconciliation

(In Euro x 1,000)	2022	2021
Total EBITDA of business segments	(8,215)	(6,708)
Amortisation	(35)	(56)
Depreciation of property, plant and equipment	(5,721)	(5,778)
Depreciation of right of use assets	(2,387)	(2,003)
Finance costs - net	(2,448)	(495)
Share based compensation	(1,114)	(828)
Rent	(984)	(241)
Fair value remeasurement	(2,841)	—
Company overheads/other	(7,374)	(8,307)
Loss before income tax from continuing operations	(31,554)	(24,416)

Events occurring since 31 December 2022

In January 2023, Avantium announced that Henkel, a global leader in adhesives, sealants and functional coatings, signed an offtake agreement giving them access to FDCA to be produced in Avantium's planned FDCA Flagship Plant. Henkel will purchase FDCA to launch innovative, high performance polyurethane adhesives in electronics applications, helping their customers to realise their sustainability goals.

In January 2023, a further €15.0 million was drawn under the €90.0 million Debt Facilities Agreement for Avantium Renewable Polymers, following the first drawdown of €15.0 million in November 2022. Furthermore, an additional loan of €2.5 million was provided in February 2023 by Stichting Fonds Leefbaarheid, Zorg en Energie Groningen (Fonds Nieuwe Doen) to Avantium Renewable Polymers.

In February 2023, Avantium and Origin entered into a non-exclusive industrial technology license agreement, providing Origin Materials access to relevant parts of Avantium's YXY[®] Technology to enable the conversion of Origin-produced CMF (chloromethylfurfural) derivatives into FDCA at a 100 kilotonnes per annum scale facility. This will enable the use of second-generation, renewable feedstocks for the production of FDCA and PEF. Under the technology license agreement, Avantium grants Origin a non-exclusive license to use certain parts of Avantium's proprietary YXY[®] process (including certain patent rights) for the purpose of (a) designing, constructing and operating the licensed facility and (b) producing, using, selling and converting FDCA manufactured at that facility. Avantium will also execute a development programme under the license agreement to establish a bridge between Origin's and Avantium's technologies. 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 Materials have made ancillary arrangements to develop the market for FDCA and PEF applications.

As a result of signing the industrial technology license agreement in 2023, Origin Materials paid Avantium a milestone fee of €7.5 million. Origin agreed to pay Avantium subsequent license fees dependent upon achievement of different development milestones. Following the commercial operations date of the licensed facility, Avantium will be eligible to receive royalties for each metric tonne of FDCA produced at the licensed plant. The license fee milestone payments and overall royalty rate are in line with industry practices and with previous guidance provided by Avantium.

Origin Materials and Avantium have also entered into a conditional offtake agreement, whereby Avantium will supply and sell FDCA and PEF to Origin Materials from its FDCA pilot plant in Geleen (the Netherlands) in 2023 and from its FDCA Flagship Plant in Delfzijl (the Netherlands) as from 2024 on a take-or-pay basis.

Avantium announced on 22 March 2023 that it has signed an offtake agreement with Kvadrat A/S, a leader in design innovation, producing quality contemporary textiles and textile related products for architects, designers, and private consumers across the world. Kvadrat will purchase PEF from Avantium's FDCA Flagship Plant. The offtake agreement gives Kvadrat the advantage of being first mover in creating PEF-based textiles for both commercial and residential interiors.

Outlook

Avantium plans to continue investing significantly in its core activities to support existing and anticipated business opportunities. Since significant income growth from Avantium's own operations and licensing activities is expected to be a few years away, the company continues to explore and evaluate various funding options to strengthen its financial position. As Avantium evolves from a company solely focused on R&D towards a manufacturing and commercialisation organisation, it is imperative to have a strong and robust balance sheet to execute its strategy and to demonstrate its long-term financial viability to prospective licensees, customers and business partners.

The construction of the FDCA Flagship Plant is progressing well. In 2022, Avantium has already contracted over 80% of the procurement and construction of the FDCA Flagship Plant. After a thorough review of the project execution plans and the expected delivery and installation of equipment, mechanical completion of the FDCA Flagship Plant is now expected to be the first quarter of 2024. This will be followed by commissioning and start-up activities during the second quarter of 2024. The total cost increase for Avantium (after the risk-sharing mechanism with Worley) is expected to be in the range of €15 - €25 million. This increase is partially covered by contingency and additional funding, including a €2.5 million loan from Fonds Nieuwe Doen, and the payments of €5 million and €7.5 million by Origin Materials. Avantium is exploring multiple funding options (including grants, debt and equity) to ensure sufficient contingency is in place until the FDCA Flagship Plant is fully commercially operational. We expect to drawdown the remaining €60 million on the Debt Facility Agreement for the FDCA Flagship Plant in the course of 2023.

Multiple discussions continue on additional FDCA and PEF offtake agreements to further expand and diversify the market for FDCA and PEF applications. Furthermore, Avantium Renewable Polymers is actively exploring additional licensing opportunities with industrial partners for the future large-scale production of FDCA and PEF.

In the Renewable Chemistries business unit, Avantium expects to be able to take the next stage-gate decision, and initiate the next phase of engineering: the development of the Process Development Package (PDP) for the Ray Technology™ Flagship Plant.

For our Volta Technology, we wish to advance the technology to a stage gate decision to construct a pilot plant, whilst continuing to explore industrial partnerships and funding options for the longer-term.

Avantium R&D Solutions will execute its new growth strategy focusing on R&D products and services for the rapidly growing field of sustainable chemistry, in addition to advanced catalysis systems and services to customers around the world. Based on its current order book for the R&D Systems business, Avantium R&D Solutions believes it can deliver significant and profitable revenue growth in 2023.

Calendar and contact details

More information about this press release:

Media Relations and Investor Relations:
Caroline van Reedt Dortland, Director Communications
+31-20-5860110 / +31-613400179,
mediarelations@avantium.com / ir@avantium.com

Presentation of the full year 2022 results on 22 March 2023:

On Wednesday 22 March 2023 at 08:00 am (CET) Avantium will host a conference call for analysts. The transcript of this call will be made available at www.avantium.com.

We recommend reading the press release in combination with the Avantium 2022 Annual Report. The press release, the 2022 Annual Report and the 2022 Remuneration Report are available at www.avantium.com.

Financial calendar 2023

Date	Event
22 March 2023	Publication full-year results 2022 and publication annual report 2022

10 May 2023	Annual General Meeting
16 August 2023	Publication of half-year results 2023

About Avantium

Avantium is a leading technology development company and a frontrunner in renewable chemistry. Avantium develops novel technologies based on renewable carbon sources as an alternative to fossil-based chemicals and plastics. The company currently has three technologies at pilot and demonstration phase. The most advanced technology is the YXY[®] plant-to-plastics-technology that catalytically converts plant-based sugars into FDCA (furanedicarboxylic acid), the key building block for the sustainable plastic PEF (polyethylene furanoate). Avantium has successfully demonstrated the YXY[®] Technology at its pilot plant in Geleen, the Netherlands, and has started construction of the world's first commercial plant for FDCA in 2022, with planned large-scale production of PEF in 2024. The second technology is Ray Technology[™] and catalytically converts industrial sugars to plant-based MEG (mono-ethylene glycol) and plant-based MPG (mono-propylene glycol): plantMEG[™] and plantMPG[™]. Avantium is scaling up its Ray Technology[™] and the demonstration plant in Delfzijl, the Netherlands opened in November 2019. The third technology is called the Dawn Technology[™] that converts non-food biomass into industrial sugars and lignin in order to help transition the chemicals and materials industries to non-fossil resources. In 2018, Avantium opened the Dawn Technology[™] pilot biorefinery in Delfzijl, the Netherlands. Avantium also provides R&D solutions in the field of sustainable chemistry and is the leading provider of advanced catalyst testing technology and services to accelerate catalyst R&D. Avantium works in partnership with like-minded companies around the globe to create revolutionary renewable chemistry solutions from invention to commercial scale.

Avantium's shares are listed on Euronext Amsterdam and Euronext Brussels (symbol: AVTX). Avantium is incorporated in the Euronext Amsterdam SmallCap Index (AScX). Its offices and headquarters are in Amsterdam, the Netherlands.

This press release by Avantium N.V. contains information that qualified or may have qualified as inside information for the purposes of Article 7 of the Market Abuse Regulation (EU) 596/2014 (MAR).

Forward-looking information / disclaimer

This press release may include forward-looking statements. Other than reported financial results and historical information, all statements included in this press release, including, without limitation, those regarding our financial position, business strategy and management plans and objectives for future operations, are forward-looking statements. These forward-looking statements are based on our current expectations and projections about future events and are subject to risks and uncertainties that could cause actual results to differ materially from those expressed in the forward-looking statements. Many of these risks and uncertainties relate to factors that are beyond Avantium's ability to control or estimate precisely, such as future market conditions, the behaviour of other market participants and the actions of governmental regulators. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this press release and are subject to change without notice. Other than as required by applicable law or the applicable rules of any exchange on which our securities may be traded, we have no intention or obligation to update forward-looking statements.