Arterra Bioscience SpA:
Initial Coverage

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Company: Arterra Bioscience Spa	Recommendation: BUY	Target price: €2.10	Sector: Biotech

Arterra Bioscience: Pioneering Sustainable Biotech Innovation

Arterra Bioscience SpA, an innovative Italian green biotech SME listed on Euronext Growth Milan since 2019, specializes in sustainable biotechnology for cosmetics, nutraceuticals, and medical devices. Based in Naples, the company leverages plant-based technologies to develop active ingredients, boasting a portfolio of 45 molecules and 18 patents. Its clients include global leaders like Estée Lauder and L'Oréal.

With a team of 43 researchers, Arterra has doubled production capacity since 2021 and expanded into agrifood and medical devices. Its scalable business model, driven by R&D, strategic partnerships, and joint ventures, underpins its profitability and leadership in sustainable biotechnology.

COMPANY PROFILE	
Ticker (Refinitiv)	ABIS.MI
Idustry	Biotech
Stock exchange	Italian Stock Exchange - Euronext Growth
Reference index	FTSE Italian Small Cap
Price as of 20/11/2024 (€)	1.90
Number of shares (m)	6.33
Free Float (m)	3.10
Market Capitalization (€m)	10.75
IPO Date	28-Oct-19

Forecast of key items	2023	2024E	2025E	2026E
(€ thousand)				
Value of production	4,950.80	4,804.87	5,832.44	6,441.79
growth %		*-3%*	*21%*	*10%*
EBITDA	1,590.89	1,423.02	1,745.27	1,865.55
margin %	*32.1%*	*29.6%*	*29.9%*	*29.0%*
EBIT	1,058.61	936.63	1,133.96	1,095.29
margin %	*21.4%*	*19.5%*	*19.4%*	*17.0%*
CapEx	-	672.68	816.54	773.01
FCFF		1,086.74	414.00	542.07
growth %			*-62%*	*31%*

Biotech: a $1.55 trillion industry

The biotechnology industry, valued at $1.55 trillion in 2023 with a projected CAGR of 13.96% (2024-2030), presents vast opportunities, including the cosmetics sector, expected to reach $210 billion by 2028. Arterra Bioscience, focused on sustainable, plant-based innovation, is well-positioned in this growing market.

The biotechnology industry, valued at $1.55 trillion in 2023 and growing at a projected CAGR of 13.96% (2024-2030), offers significant opportunities across sectors like cosmetics, which alone is expected to reach $210 billion by 2028. Arterra's focus on sustainable, plant-based innovation positions it well within this expanding market.

Strong Financial Growth and Stability:

Arterra Bioscience has shown steady profitability and growth from 2019 to 2023, with revenues and net income growing at CAGRs of 6.4% and 4.6%. Gross profit margins improved from 87% to 91%, and EBITDA and net income margins remained strong, despite a slight decline in early 2023. The company boasts strong liquidity, with a current ratio of 9.4 and a quick ratio of 5.2, well above industry averages. Its debt-to-assets ratio has dropped from 19% to 3%, bolstered by subsidized loans from Italy's Ministry of Economic Development.

Valuation:

Based on intrinsic and relative valuation analyses, the target price for Arterra Bioscience SpA ranges from €1.10 to €8.41, with the base case DCF model output suggesting a target of €2.10. This implies a 10.5% expected upside, leading to a buy recommendation.

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1. Company overview:

Arterra Bioscience SpA is an innovative Italian green biotech SME specializing in biotechnology research and development. Listed on the Euronext Growth Milan market of Borsa Italiana since October 28th, 2019, Arterra was founded in 2004 by CEO Maria Gabriella Colucci, who brought over a decade of research experience at the University of San Diego in California and Arena Pharmaceuticals.

Based in Naples, the Company can count on a robust team of 43 employees, mainly composed of experienced scientists and talented young researchers. The scientific know-how held by Arterra's human capital allows it to provide clients with innovative solutions through the discovery of new active molecules, both natural and synthetic, applicable in different fields. More in detail, the company uses living organisms, such as bacteria, yeasts, plants, and animal cells, or their components, to create active ingredients (known as NMPs), then implicated in developing innovative, bio-sustainable technologies and products offering versatile applications for multiple industrial sectors such as agriculture, pharmaceuticals, cosmetics, nutraceuticals.

Arterra's core segment is the cosmetics industry, with a strong focus on both skin care and make-up applications, but is diversifying into other high-potential sectors, such as medical devices and nutraceuticals. The cross team sharing of knowledge allows research outcomes to be applied beyond their original field, thus increasing the value of the research for the company.

Pursuing its activity, Arterra has filed 18 patents (12 of them internationally). Of these patents, 53% relate to the cosmetics sector, 35% to agriculture, and 12% to the industrial sector. Arterra has introduced 45 NMPs to the market. Arterra is well-known and respected within the international scientific community and is frequently entrusted with or participates in international research projects, collaborating with institutions, universities, or other biotech companies from Europe or America. The clients for its R&D activities are both Italian and foreign: for instance the NMPs developed by Arterra are currently used in the cosmetics industry by major international and national brands such as Estée Lauder, L'Oréal, and KIKO, therefore allowing for worldwide distribution of its innovations

Business Model:

Arterra Bioscience operates a business model centered on conducting internal research to develop innovative molecules and ingredients, which are either used for production or sold directly. Arterra's value chain is structured in three primary phases: order acquisition, R&D activities, and commercialization of research outcomes.

1. Order Acquisition

Arterra acquires orders through the following channels:

- **Research Contracts and Joint Ventures**: these contracts are signed with private third parties, usually after technical and commercial discussions with potential clients. This sometimes leads to the creation of joint ventures to co-develop new technologies or products.
- **Research Grant Agreements**: Arterra also secures orders through public tenders and grants.
    - **Regional or National Tenders**: relevant opportunities for Arterra to collaborate with public research institutions to fill knowledge gaps are identified in official gazettes. Arterra receives funding if its application meets the tender requirements.
    - **European Research Grants**: Arterra is often contacted by European research institutions to collaborate on projects within its area of expertise. Since its founding, Arterra secured 15 grants, totaling approximately €11 million.

- **Independent Research Initiatives**: occasionally, Arterra embarks on internally originated projects based on independent ideas, without any third-party solicitation. Promising projects are typically completed with the support of research grants, where possible.

2. Research and Development Activities

R&D activities start when a research contract is signed of a tender bid is accepted. The **Technical Scientific Committee (CTS)** meets monthly to evaluate ongoing research projects and set priorities based on client needs and market demands. The most innovative projects, especially those focusing on future market needs or requiring new technologies, may be escalated to the **Extended Scientific Committee** for further evaluation.

If the R&D yields strong evidence of profitability and effectiveness of a new product, the project transitions to the commercialization phase. Otherwise, it is discontinued.

3. Commercialization of Research Outcomes

Research outcomes are commercialized using two primary models:

- **Asset or right transfer**: intellectual property is directly transferred to the customer, or the exclusive or non-exclusive right to use it is licensed. In the first case, revenue comes in the form of fees. In the second case, revenue consists of royalties and Arterra retains the possibility of exploring the application of its product in other sectors.
- **Production**: a joint venture is established between Arterra and the customer. The joint venture's goal is to create finished products using Arterra's technology. The intellectual property is transferred to the joint venture and Arterra receives a fixed fee for the R&D conducted, as well as compensation for materials sold to the joint venture. The company also shares the profits generated from the sale of the final products. Distribution of products is handled by partners like **Intercos** and **Vitalab**, which work with well-known global cosmetics brands such as **Estée Lauder, Avon, Charlotte Tilbury,** and **Kiko**.

Marketing activities are also crucial for Arterra to boost visibility, communicate the potential value of its biotechnologies, and establish connections with new clients.

SWOT analysis:

SWOT ANALYSIS	
Strengths • Qualified research team and superior know how • Competitive R&D and raw material costs, and access to EU funds • Long-term partnerships with well-established firms • Resilience of the cosmetics industry • Growing investments in R&D	**Weaknesses** • High competitivity and low barriers in the cosmetics market • Small size of the business
Opportunities • Potential expansion in multiple markets such as agrifood, pharmaceutical and medical devices • Possibility to exploit the "natural and sustainable" momentum • Using the research outputs for multiple applications • Potential object of an acquisition	**Threats** • Potential difficulty in maintaining the independence from distributors and global brands • Expanding into new markets could be a potential challenge

Strategy and trends:

Arterra's plans include enhancing research efforts, recruiting specialized talent, entering new markets, boosting production capacity, and pursuing growth through mergers and acquisitions (M&A). The company has already made significant strides in implementing its corporate strategy:

Since 2019, Arterra Bioscience has invested more than €3 million to enhance its production capabilities, including expanding production facilities and incorporating new technologies such as “ex vivo” testing equipment, lyophilizers, and cellular growth labs. These investments have been key drivers of the company’s improved performance. As a result, its production capacity has more than doubled since 2021, with daily output increasing from 21kg to 50kg.

Over the past three years, Arterra Bioscience has expanded its research team by recruiting key experts, including Prof. V. Fogliano (with over 20 years of experience as a professor) as Scientific Coordinator, Ms. M. Bimonte (PhD in genetics) as Grant & IP Director, and Ms. A. Tito (PhD in biotechnology) as Cell & Molecular Biology Director. This has brought the team to a total of 37 employees and significantly enhanced the research division's expertise. The team now covers not only cosmetics but also additional sectors such as nutraceuticals, medical devices, and agrifood.

Additionally, by introducing new middle management roles such as COO, R&D Coordinator, Grant & IP Director, and Cell & Molecular Biology Director, Arterra has enhanced the quality of its R&D department while also optimizing its production processes.

Consolidation in cosmetics and expansion in new markets:

Arterra mainly operates in the cosmetics industry, which represents its main revenue source. Over the years, the company developed a range of innovative active ingredients derived from plant cell extracts that promote skin health and resilience. In 2023, the Company introduced some important innovations, namely:

- Powder active ingredients for make-up application
- Recombinant peptides using molecular farming technology
- New delivery systems (available in 2025)
- Plant-based extracellular vesicles, such as plant Exosomes, to be used in Skincare and other beauty treatments

Arterra has secured patents for plant-derived extracts, including Oenothera biennis for anti-aging applications and Portulaca grandiflora, Pelargonium capitatum, and Cannabis sativa for various cosmetic uses. Its research on extracellular vesicles uncovered groundbreaking properties and functions, leading to a joint venture with Exosomics Spa. Since 2008, Arterra has maintained a research partnership with Intercos SpA, a global cosmetics leader. In 2010, the two companies launched Vitalab, a joint venture dedicated to marketing innovative products for skincare, personal hygiene, and functional makeup. In 2020, Arterra further diversified into the hair care market through its collaboration with Intercos, driven by the rising demand for plant-based solutions in this sector.

Arterra is expanding its operations beyond the cosmetics market into additional sectors, leveraging the versatility of certain molecules originally developed for cosmetic applications. These molecules are now finding use in medical devices and agri-food markets, including through research on extracellular vesicles and plant-derived extracts. Advances in in vitro research and innovative biotech technologies, such as those based on Lactobacillus, have enabled Arterra to secure contracts in the agrifood, nutraceutical, and medical device industries.

Over the years, Arterra has formed multiple strategic partnerships. It has a long-standing collaboration with Isagro SpA, an Italian agrochemical company and shareholder since 2005. In 2021, Arterra entered the medical devices market through a five-year partnership with ADL Farmaceutici to produce active compounds targeting

acne and dermatitis, later acquiring a 6.8% stake in the company. Additionally, Arterra has co-patented two innovations with Montecarlofruit related to upcycling mango waste under a research agreement. Furthermore, it is collaborating with ABR on the co-development of new natural products to address irritable bowel syndrome.

Through strategic partnerships, targeted investments in production and R&D, and a commitment to continuous innovation, Arterra is poised to strengthen its position in the cosmetics industry while diversifying into the medical devices and agri-food sectors. This approach reinforces its status as a leader in sustainable biotechnology.

Ownership:

The IPO (Initial Public Offering) process for Arterra Bioscience began on October 9, 2019, with the submission of the pre-admission communication and led to the company's listing on the Euronext Growth segment of the Italian Stock Exchange on October 28, 2019.

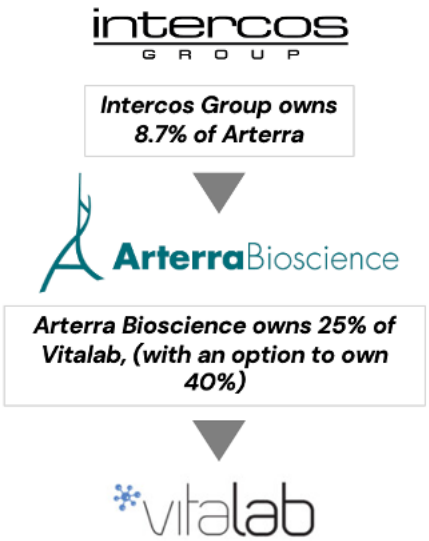
The company is owned by executive shareholders, corporations, individual investors, and investment funds, with approximately 46% of its shares publicly floated. Gabriela Colucci, the founder, CEO and chair, owns 27,9% of the shares.

Shareholders			
Floating Shares			**45.9%**
Individual	***Main Shareholders*** (Gabriela) Colucci 27.9% (Paolo) Colucci 6.0%	***Other Shareholders*** (Alberto) Previtali 10.4%	**44.2%**
Corporation & Investment Funds	Intercos Spa 8.7% Owned by Investment Funds 1.2%		**9.9%**

In 2005, Isagro acquired a 22% stake in Arterra, forming a strategic partnership focused on research-driven bio-innovation in agriculture. In 2008, Arterra expanded into the cosmetics industry by signing an agreement with Intercos, becoming its dedicated biotech research division for cosmetics innovation. Arterra currently develops three active compounds annually, catering to skincare or makeup applications.

Under the agreement, Intercos purchases these active ingredients with exclusive usage rights for the first year, after which the compounds are distributed globally through Vitalab, a joint venture. Arterra owns a 25% stake in Vitalab, with an option to increase ownership to 40%, and receives 40% of Vitalab's distributed income.

In 2019, Intercos became a shareholder in Arterra through its IPO, further solidifying their strategic relationship and aligning long-term goals in cosmetics innovation and global distribution.



2. Industry & Competition Analysis for Arterra Bioscience

Industry Size and Growth:

Revenue of the global cosmetics market

103.8bn USD

Make-up share of the global cosmetics market

17%

Global skincare market value projection in 2028

210bn USD

The biotechnology industry has seen remarkable expansion over the past decade, encompassing various sectors, from healthcare and agriculture to cosmetics and environmental sciences. In 2023, the global biotechnology market was valued at approximately $1.55 trillion, with projections indicating a compound annual growth rate (CAGR) of 13.96% from 2024 to 2030. Growth is driven by rising consumer demand for sustainable and natural alternatives, technological advancements, and increased investment in biotechnological research and development across multiple applications. More specifically, 2023 revenue of global cosmetics market is estimated as 104bn dollars with the value projection of 210bn dollars by the end of 2028. Moreover, the cosmetics sector is estimated to make up for 17% of the biotechnology sector as of 2024.

Key Drivers of Growth

Technological advancements, evolving consumer preferences, and supportive regulatory environments are key drivers of growth in the biotechnology industry. Biotechnology innovations, particularly in gene editing, synthetic biology, and sustainable production methods, are transforming traditional industries, including cosmetics and healthcare, providing companies like Arterra with the tools to meet the growing demand for biotech-driven solutions.

Additionally, there is a notable consumer shift toward sustainability, especially within the personal care sector, where consumers are prioritizing products that are ethically sourced and environmentally friendly. Government support for green technologies further accelerates industry growth by providing grants and incentivizing sustainable practices.

Market Trends

Several critical trends are shaping the biotechnology landscape and influencing the competitive environment for companies like Arterra Bioscience. Personalized skincare solutions have emerged as a major trend, leveraging biotechnology to create tailored solutions that meet individual consumer needs. This approach is expected to grow as advancements in gene-based analysis and biotech applications in skincare products become more accessible. Furthermore, the industry has experienced a significant shift toward sustainability, with consumers favoring eco-friendly products. This aligns with broader global goals to minimize environmental impact and supports Arterra’s sustainable product development.

Finally, artificial intelligence is increasingly integrated into biotech research, enhancing discovery efficiency and facilitating the development of innovative products, positioning biotech firms to address market demands more quickly and effectively.

The global revenue in the 'Cosmetics' segment of the beauty & personal care market was forecast to continuously increase between 2024 and 2029 by in total 23.9 billion U.S. dollars (+22.04%). After the ninth consecutive increasing year, the revenue is estimated to reach 132.35 billion U.S. dollars and therefore a new peak in 2029.

Competition Analysis

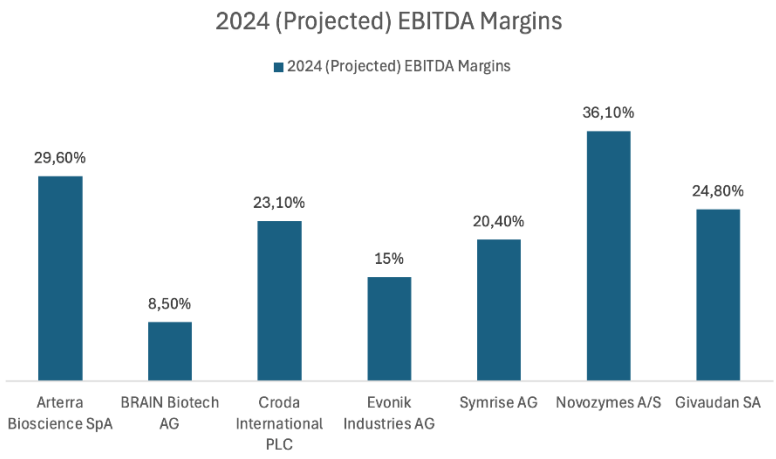
Arterra Bioscience operates within a highly competitive biotechnology sector, especially in the cosmetic and nutraceutical markets. Key competitors include major biotech companies and specialized firms that provide natural, sustainable ingredients. Notable competitors include Novozymes, which dominates the enzyme market, Croda International, specializes in specialty chemicals for personal care, and Symrise AG, which provides natural raw materials for cosmetics and a few more. These firms have established positions due to their extensive portfolios, innovative R&D, and strong distribution channels. The full list of main competitiors and their respective EBITDA margins for 2019 to 2023 is tabulated and follows.

Company	2023	2022	2021	2020	2019
Arterra Bioscience SpA	48%	60%	45%	57%	46%
BRAIN Biotech AG	2%	-3%	-8%	-5%	-5%
Croda International PLC	24%	29%	29%	28%	29%
Evonik Industries AG	11%	14%	16%	16%	16%
Symrise AG	18%	19%	22%	21%	20%
Novozymes A/S	33%	34%	36%	36%	34%
Givaudan SA	21%	21%	22%	23%	21%

Arterra Bioscience maintains EBITDA margins well above its main competitors

Arterra Bioscience operates in a competitive landscape alongside European and US-listed biotech companies specializing in natural substances for industrial green applications. What sets Arterra apart is its consistent profitability, achieved without reliance on venture capital or additional funding, instead leveraging research grants.

Arterra's competitive advantage lies in its focus on plant-based ingredients and sustainable innovation, differentiating it from larger, multi-sector biotech companies. By focusing on scalable and profitable applications, Arterra competes by offering high-quality, eco-conscious products tailored for cosmetic and wellness markets, where it maintains profitability despite the industry's high levels of competition.



In terms of 2024 projections, Arterra is projected to have the second-highest EBITDA margin (29.6%) among its peers, trailing only Novozymes (36.1%) and outperforming companies like Croda (23.1%) and Givaudan SA (24.8%). Many competitors, including BRAIN, Fermentalg, and Codexis, report significantly lower or even negative margins. Since its establishment in 2004, Arterra has maintained positive EBITDA, underscoring its strong operating model compared to its less profitable peers.

Porter's Five Forces:

Barriers to Entry - Medium

Due to the high capital investment and specialized expertise required in the biotechnology industry, the entrance of new competitors remains challenging. However, technological advances have lowered barriers, allowing entrants to emerge more frequently, especially in niche segments like cosmetics, where innovation and unique product offerings can carve out market space.

Supplier Power – Low

The biotechnology sector's reliance on specific suppliers is minimal, thanks to the availability of alternative materials and multiple sourcing options. This diversity helps firms maintain flexibility, limiting supplier leverage and providing firms with consistent, adaptable supply chains.

Buyer Power - High

Given the broad range of options available, buyers wield substantial leverage, especially in the cosmetics sector, where market demand pushes firms to consistently innovate and differentiate their offerings to stay competitive and retain customer loyalty *(Statista, 2024)*.

Substitution Threat - Medium

Within cosmetics, there are alternatives such as synthetic chemicals and natural products. However, the strong consumer preference for biotech-derived ingredients reduces the attractiveness of substitutes, enhancing the appeal of biotech solutions over other options.

Internal Rivalry - High

Finally, competition within the biotechnology sector is intense, as companies consistently strive to differentiate through technological innovations, high product quality, and competitive pricing. This environment drives firms to remain at the forefront of technological advancements to retain and grow their market positions.

PESTEL Analysis:

PESTEL analysis provides insight into the external factors affecting the biotechnology industry:

- **Political**: Government support, particularly in Europe, encourages sustainable practices in biotech through funding and favorable regulations.
- **Economic**: Increasing disposable income and spending on wellness products positively impact the biotech industry, though economic fluctuations can affect consumer demand.
- **Social**: Health and environmental awareness drive demand for eco-friendly products, supporting the growth of biotechnology firms that provide natural alternatives.
- **Technological**: Rapid advancements, including precision fermentation and AI, enable faster R&D and new product development, positioning the industry for sustained growth.
- **Environmental**: Growing emphasis on sustainability promotes eco-friendly biotech practices, especially in cosmetic and agricultural applications.
- **Legal**: Stringent regulations on biotechnology processes, transparency, and environmental impact are shaping industry practices and product standards.

Positioning

Arterra Bioscience is a pioneering player in sustainable biotechnology, focusing on plant-derived ingredients for cosmetics and nutraceutical applications. Its commitment to research and innovation in sustainable product development sets it apart from larger biotechnology firms. By leveraging its strengths in eco-friendly practices and strategic partnerships, Arterra aligns itself with the increasing market demand for sustainable products, enhancing its competitive position in the industry.

3. Past Performance:

Arterra stands out as a profitable, rapidly growing, low leverage biotech company.

Over the past five years (2019-2023), its revenues and net income grew at a CAGR of 6.4% and 4.6% respectively. Despite this strong growth, the company enhanced its gross profit margin, increasing it from 87% to 91%. Both EBITDA and net income margins improved consistently until early 2023, when they declined due to a slowdown in sales volume coupled with fixed costs remaining constant. Arterra's ROA and ROE declined during the period analyzed, primarily due to reduced leverage and increased assets rather than a drop in profitability. Notably, Arterra surpassed the industry average in these profitability metrics in 2023.

In line with its operational expansion, Arterra experienced a decline in efficiency over the past five years, as reflected in reduced asset and inventory turnover. Similarly, receivables and payables turnover decreased, indicating longer collection periods from customers and shorter payment periods to suppliers. However, there are no indications of liquidity issues. On the contrary, Arterra remains highly liquid and solvent, with current and quick ratios of 9.4 and 5.2, respectively—both significantly above industry averages and showing substantial improvement over time. From an efficiency perspective, Arterra lagged behind the industry in 2023, while it overperformed in terms of liquidity.

Finally, Arterra has demonstrated a consistent commitment to deleveraging. Between 2019 and 2023, its debt-to-assets ratio dropped significantly from 19% to 3%, and its interest coverage ratio consistently exceeded 100. Additionally, the company benefits from subsidized loans with very low interest rates, backed by the Ministry of Economic Development.

		Arterra Bioscience SpA					Industry
	Ratios:	2019	2020	2021	2022	2023	2023
Profitability	ROE	22.1%	16.6%	14.4%	16.2%	11.5%	NA
	ROA	13.2%	12.1%	11.4%	13.3%	8.4%	NA
	Gross Margin	87%	88%	93%	90%	91%	44.9%
	EBITDA Margin	45%	58%	63%	78%	58%	-22.5%
Efficiency	Asset turnover	0.38	0.42	0.40	0.42	0.39	0.39
	Inventory turnover	3.93	3.34	3.64	2.04	1.61	2.93
	Receivalbles turnover	1.22	1.22	1.30	1.22	1.20	4.20
	Payables turnover	3.59	4.84	8.78	7.67	9.23	4.89
Liquidity	Current	6.18	7.68	6.94	8.52	9.40	2.10
	Quick	4.42	4.74	4.57	4.25	5.19	1.53
Capital	Debt / Assets	10.5%	7.8%	5.3%	3.9%	3.1%	23.3%
	Interest coverage	79.10	77.86	152.96	213.15	105.54	3.76

4. Model and Valuation:

Intrinsic valuation:

Revenue schedule:

The revenue schedule for Arterra's value of production can be broken down into four key sections: cosmetic turnover, research contracts, change in WIP, and government grants. Cosmetic turnover represents more than half of the value of production and is therefore the focus of our revenue forecast. Revenue coming from the cosmetic segment is modeled through a volume-price approach. Volumes are assumed to grow at 12% for the next five years, just 2 percentage points above the average of the past five years, a period which saw reduced growth due to the pandemic. The price per kg starts from 2023 levels (€250/kg) and is assumed to grow up to €265/kg over time. The €265/kg is not breached as prices have never exceeded such level in the past seven years. Revenue from research contracts is expected to grow initially at the average rate observed over the past five years, with accelerated growth anticipated as efforts are made to expand into industries beyond cosmetics. Conversely, government grants are expected to grow at a slower rate compared to the pandemic period, also reflecting the decrease in government stimulus as the economy begins to recover. Finally, the change in WIP is modeled by maintaining stable days inventory outstanding over time. Our assumptions result in a revenue CAGR of 9.7%, which is below the industry's predicted CAGR of 13.9%. This is justified by Arterra's position as a relatively small and young company that operates as a price taker in the market.

Net Sales Schedule	Units	2023	2024	2025	2026	2027	2028	2029	2030
Cosmetics volume	(kg)	10,559.00	11,826.08	13,245.21	14,834.63	16,614.79	18,608.57	20,841.59	23,342.58
growth %			*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
Price per kg	(€)	254.10	255.00	255.00	255.00	260.00	260.00	265.00	265.00
Cosmetic turnover	**(€ thousand)**	**2,683.00**	**3,015.65**	**3,377.53**	**3,782.83**	**4,319.85**	**4,838.23**	**5,523.02**	**6,185.79**
Research contracts & other	(€ thousand)	621.04	634.70	648.67	668.13	688.17	708.82	737.17	766.65
growth %			*2.2%*	*2.2%*	*3.0%*	*3.0%*	*3.0%*	*4.0%*	*4.0%*
Net Sales	(€ thousand)	**3,304.04**	**3,650.35**	**4,026.19**	**4,450.96**	**5,008.02**	**5,547.04**	**6,260.19**	**6,952.44**
Changes in Inventory (Finished/WIP)	(€ thousand)	231.10 -	402.71	93.30	106.59	121.76	139.10	158.91	181.54
Government Grants	(€ thousand)	1,415.66	1,557.23	1,712.95	1,884.24	2,034.98	2,157.08	2,264.94	2,355.53
Other Income	**(€ thousand)**	**1,646.76**	**1,154.51**	**1,806.25**	**1,990.83**	**2,156.75**	**2,296.19**	**2,423.85**	**2,537.07**
growth %			10.0%	10.0%	10.0%	8.0%	6.0%	5.0%	4.0%
Value of Production	(€ thousand)	**4,950.80**	**4,804.87**	**5,832.44**	**6,441.79**	**7,164.76**	**7,843.23**	**8,684.04**	**9,489.51**

Cost schedule:

Arterra's cost modeling was approached using distinct criteria tailored to the nature of each expense. Cost of Goods Sold (COGS) was modeled based on cosmetic volume by first predicting the cost per kilogram of cosmetic output and then multiplying it by the projected yearly output. Similarly, service and labor costs, considered variable expenses, were forecasted as a percentage of the value of production. In contrast, fixed costs were modeled to increase by 2.0% annually, aligning with the anticipated average rise in the Producer Price Index (PPI) over the forecast period.

Cost Schedule	2023	2024	2025	2026	2027	2028	2029	2030
(€ thousand)								
Sales Volume (kg)	10,559	11,826	13,245	14,835	16,615	18,609	20,842	23,343
Cost Inflation		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
COST PER UNIT								
Variable Costs								
COGS	40.21	41.02	41.84	42.68	43.53	44.40	45.29	46.19
TOTAL COSTS								
Variable Costs								
COGS	424.62	485.09	554.16	633.07	723.22	826.21	943.86	1,078.27
Cost of Services	1,292.36	1,273.08	1,568.52	1,758.38	1,985.06	2,205.63	2,478.71	2,749.25
Labour expenses	1,475.96	1,453.94	1,791.36	2,008.19	2,267.07	2,518.98	2,830.85	3,139.83
Total Variable Costs	**3,192.94**	**3,212.11**	**3,914.04**	**4,399.64**	**4,975.36**	**5,550.82**	**6,253.43**	**6,967.35**
Fixed Costs								
Rental Expense	81.69	83.32	84.99	86.69	88.42	90.19	92.00	93.84
Other Operating Expense	84.72	86.41	88.14	89.91	91.70	93.54	95.41	97.32
Total fixed costs	**166.41**	**169.74**	**173.13**	**176.60**	**180.13**	**183.73**	**187.40**	**191.15**

Depreciation and CapEx schedule:

Existing assets were depreciated based on their remaining useful life. The remaining life of tangible and intangible assets was determined to be 3.15 and 4 years, respectively, by dividing their current book value by the annual depreciation and amortization expense. Capital expenditures (CapEx) are projected as a percentage of revenues, set slightly above the average of the past five years and expected to decline over time. This increase is justified by the need for CapEx to support growth and the expansion of production capacity. Over time, CapEx is assumed to proportionally decline as the company's growth rate slows.

Depreciation Schedule	2023	2024	2025	2026	2027	2028	2029	2030
TANGIBLE ASSETS								
Net tangible assets	1,232.03							
CAPEX	48.10	480.49	583.24	579.76	644.83	549.03	607.88	569.37
as % of revenues		10%	10%	9%	9%	7%	7%	6%
Years remaining existing assets:	3.15							
Depreciation years on new assets:	5							
Depreciation of existing tangible assets		391.12	391.12	391.12	58.67	-	-	-
	CAPEX							
2024	480.49	48.05	96.10	96.10	96.10	96.10	48.05	-
2025	583.24		58.32	116.65	116.65	116.65	116.65	58.32
2026	579.76			57.98	115.95	115.95	115.95	115.95
2027	644.83				64.48	128.97	128.97	128.97
2028	549.03					54.90	109.81	109.81
2029	607.88						60.79	121.58
2030	569.37							56.94
Depreciation of new tangible assets		**48.05**	**154.42**	**270.72**	**393.18**	**512.57**	**580.21**	**591.56**
Total Depreciation (tangible assets)		**439.17**	**545.54**	**661.84**	**451.85**	**512.57**	**580.21**	**591.56**
INTANGIBLE ASSETS								
Net tangible assets	40.03							
CAPEX	16.74	192.19	233.30	193.25	143.30	156.86	86.84	94.90
as % of revenues		4%	4%	3%	2%	2%	1%	1%
Years remaining existing assets:	4							
Amortization years on new assets:	5							
Amortization of existing intangible assets		28.00	4.00	4.00	4.00	-	-	-
	CAPEX							
2024	192.19	19.22	38.44	38.44	38.44	38.44	19.22	-
2025	233.30		23.33	46.66	46.66	46.66	46.66	23.33
2026	193.25			19.33	38.65	38.65	38.65	38.65
2027	143.30				14.33	28.66	28.66	28.66
2028	156.86					15.69	31.37	31.37
2029	86.84						8.68	17.37
2030	94.90							9.49
Amortization of new intangible assets		**19.22**	**61.77**	**104.42**	**138.08**	**168.09**	**173.25**	**148.87**
Total Amortization (intangible assets)		**47.22**	**65.77**	**108.42**	**142.08**	**168.09**	**173.25**	**148.87**

Debt schedule:

Arterra appears to be deleveraging, with its financial debt-to-assets ratio decreasing from 20% in 2018 to 3% in 2023. While it is typical for biotech companies to maintain low leverage due to their relatively high risk, it is unlikely that the debt-to-assets ratio will decrease further. Consequently, after accounting for the existing debt, projections for new issuances are made with the aim of maintaining a 3% debt-to-assets ratio over the entire forecast period. The average interest rate is assumed to be 2.9%, slightly higher than what the company is currently paying (2.3%). As previously explained, Arterra can benefit from low interest rates thanks to subsidized debt backed by the government.

Existing debt		(€thousand)	2023	2024	2025	2026	2027	2028	2029	2030
Entity	MISE	Capital BoY		81.67	61.94	41.76	21.12	-	-	-
Finish	31/12/2027	Payment		21.60	21.60	21.60	21.60	-	-	-
Rem. Mat.	4	Interest		1.88	1.42	0.96	0.49	-	-	-
Interest rate	2.30%	Capital Repayment		19.73	20.18	20.64	21.12	-	-	-
Amt	81.67	Capital EoY	81.67	61.94	41.76	21.12	-	-	-	-
Entity	NUTRABEST	Capital BoY		151.28	131.11	110.48	89.38	67.79	45.71	23.11
Finish	31/12/2030	Payment		£23.64	23.64	23.64	23.64	23.64	23.64	23.64
Maturity	7	Interest		3.48	3.02	2.54	2.06	1.56	1.05	0.53
Interest rate	2.30%	Capital Repayment		20.17	20.63	21.10	21.59	22.09	22.59	23.11
Amt	151.28	Capital EoY	151.28	131.11	110.48	89.38	67.79	45.71	23.11	- 0.00
Entity	ETB	Capital BoY		66.82	45.05	22.78	-	-	-	-
Finish	31/12/2026	Payment		23.31	23.31	23.31	-	-	-	-
Maturity	3	Interest		1.54	1.04	0.52	-	-	-	-
Interest rate	2.30%	Capital Repayment		21.77	22.27	22.78	-	-	-	-
Amt	66.82	Capital EoY	66.82	45.05	22.78	-	-	-	-	-

New debt		(€thousand)	2023	2024	2025	2026	2027	2028	2029	2030
Target D/A	3%									
Interest rate	2.90%									
Maturity	8									

Year	New Issue							
2024	172.59	-	19.48	20.04	20.62	21.22	21.84	22.47
2025	122.64	-	-	13.84	14.24	14.66	15.08	15.52
2026	138.57	-	-	-	15.64	16.09	16.56	17.04
2027	142.25	-	-	-	-	16.05	16.52	17.00
2028	140.49	-	-	-	-	-	15.86	16.32
2029	161.97	-	-	-	-	-	-	18.28
2030	187.51	-	-	-	-	-	-	-
Tot Repayment		**-**	**19.48**	**33.88**	**50.51**	**68.02**	**85.85**	**106.62**

Year	New Issue							
2024	172.59	-	5.01	4.44	3.86	3.26	2.65	2.01
2025	122.64	-	-	3.56	3.16	2.74	2.32	1.88
2026	138.57	-	-	-	4.02	3.57	3.10	2.62
2027	142.25	-	-	-	-	4.13	3.66	3.18
2028	140.49	-	-	-	-	-	4.07	3.61
2029	161.97	-	-	-	-	-	-	4.70
2030	187.51	-	-	-	-	-	-	-
Tot interest		**-**	**5.01**	**8.00**	**11.03**	**13.69**	**15.80**	**18.00**

Year	New Issue							
2024	172.59	172.59	153.12	133.07	112.45	91.23	69.39	46.92
2025	122.64	-	122.64	108.80	94.56	79.90	64.82	49.30
2026	138.57	-	-	138.57	122.93	106.84	90.28	73.24
2027	142.25	-	-	-	142.25	126.20	109.68	92.68
2028	140.49	-	-	-		140.49	124.64	108.32
2029	161.97	-	-	-	-	-	161.97	143.69
2030	187.51	-	-	-	-	-	-	187.51
New Debt EoY		**172.59**	**275.76**	**380.45**	**472.20**	**544.66**	**620.79**	**701.68**
Total Debt EoY		**410.70**	**450.78**	**490.95**	**539.99**	**590.37**	**643.90**	**701.68**
Short-term		82.56	98.41	93.21	90.11	108.45	129.74	130.88
Long-Term		328.14	352.37	397.73	449.88	481.92	514.16	570.80

Working Capital Schedule:

Working capital was forecasted based on a days outstanding approach. Days outstanding are predicted to remain equal to the 2018-2023 average over the entire period.

Working Capital Schedule	2023	2024	2025	2026	2027	2028	2029	2030
Income Statement Items								
Net Sales	3,304.04	3,650.35	4,026.19	4,450.96	5,008.02	5,547.04	6,260.19	6,952.44
COGS	424.62	485.09	554.16	633.07	723.22	826.21	943.86	1,078.27
Days In								
Trade Receivables	77	61	61	61	61	61	61	61
Income Tax Receivables	759	731	731	731	731	731	731	731
Other Reveivables / Loans	1090	1068	1068	1068	1068	1068	1068	1068
Inventory	1165	659	659	659	659	659	659	659
Raw Materials	256	166	166	166	166	166	166	166
WIP / Finished	909	493	493	493	493	493	493	493
DTA	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	1
Prepaid Expenses	36	50	50	50	50	50	50	50
Trade payables	74	156	156	156	156	156	156	156
Income Taxes	44	104	104	104	104	104	104	104
Accured Expenses	164	250	250	250	250	250	250	250
Other	229	178	178	178	178	178	178	178
Account Balances								
Trade Receivables	694.63	610.1	672.9	743.9	837.0	927.0	1,046.2	1,161.9
Income Tax Receivables	882.52	971.5	1109.8	1267.9	1448.4	1654.7	1890.3	2159.5
Other Reveivables / Loans	1,267.77	1419.4	1621.5	1852.4	2116.2	2417.5	2761.8	3155.0
Inventory	1,355.52	875.8	1000.5	1143.0	1305.8	1491.7	1704.1	1946.8
Raw Materials	297.61	220.6	252.0	287.9	328.9	375.8	429.3	490.4
WIP / Finished	1,057.91	655.2	748.5	855.1	976.8	1116.0	1274.9	1456.4
DTA	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	-	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Prepaid Expenses	41.89	66.5	75.9	86.7	99.1	113.2	129.3	147.7
Trade payables	86.32	207.3	236.8	270.6	309.1	353.1	403.4	460.8
Income Taxes	50.63	138.2	157.9	180.4	206.1	235.4	268.9	307.2
Accured Expenses	190.37	332.3	379.6	433.6	495.4	565.9	646.5	738.5
Other	266.47	236.6	270.2	308.7	352.7	402.9	460.3	525.8

Weighted Average Cost of Capital:

Our calculations yield a cost of capital of 8.95%. The cost of debt is estimated at 2.9%, aligned with the yield on the 5-year Italian BTP, as Arterra's government-backed debt is considered to carry a risk profile comparable to that of Italian sovereign debt. The tax rate is assumed to be 20%, equal to the past five-year average. The risk-free rate is proxied by the yield on the 10-year Italian BTP. A period of 10 years is reasonable for capturing the maturity of the forecasted cashflows and terminal value. The beta was calculated on the FTSE MIB index monthly returns over the past five years. The ERP is sourced from Refinitiv. Finally, the cost of equity was computed following the standard CAPM approach.

WACC Buildup		
$ and shares in millions, except per share data		
Cost of capital assumptions		
		Source
Cost of debt	2.90%	
Tax rate	20.00%	Average tax rate used in 2024-2030 estimations
Cost of debt (after tax)	2.32%	Cost of debt x (1 - tax rate)
Risk free rate	3.55%	Refinitiv- BTP 10 year yield
Beta	0.878	Beta- Refinitiv As of 11/11/2024
Market risk premium	6.44%	Market risk premium from Refinitiv, as of 11/11/24
Cost of equity	9.21%	RfR + Beta x MRP

Capital weights (capital structure)		
	Current	% of total
Equity	10,751.91	96.3%
Debt	410.34	3.7%
Total	**11,162.2**	

Cost of capital (WACC)	**9.0%**

Discounted Cashflow Analysis:

The DCF model was implemented using a two-stage approach. This method was essential to account for the high growth rates expected in the coming years while gradually transitioning to normalized growth rates over time. Free cash flow projections were calculated from 2025 onward, as 2024 cashflows will not be received under the assumption the investment is undertaken at the end of this year.

Free Cash Flow	2025	2026	2027	2028	2029	2030
(€ thousand)						
EBIT	1,133.96	1,095.29	1,415.35	1,428.01	1,489.75	1,590.58
Tax rate	20%	20%	20%	20%	20%	20%
Unlevered taxes	226.79	219.06	283.07	285.60	297.95	318.12
NOPAT	**907.17**	**876.23**	**1,132.28**	**1,142.41**	**1,191.80**	**1,272.47**
CapEx	- 816.54	- 773.01	- 788.12	- 705.89	- 694.72	- 664.27
Change in WC	- 287.93	- 331.41	- 401.27	- 454.79	- 534.50	- 594.67
D&A	611.31	770.27	593.93	680.66	753.45	740.43
FCFF	**414.00**	**542.07**	**536.82**	**662.40**	**716.03**	**753.96**
Terminal growth rate						2.5%
WACC						8.95%
Terminal Value						11,975.06
Total CF	414.00	542.07	536.82	662.40	716.03	12,729.02
t	0.50	1.50	2.50	3.50	4.50	5.50
PV(CF)	396.63	476.64	433.24	490.65	486.79	7,942.70
Enterprise Value						**10,226.65**
Net Debt						- 3,084.33
Equity Value						13,310.98
# shares						6,333.00
Price per share						**2.10**

Notably, CapEx and Net Working Capital expansion significantly reduces free cashflows, highlighting the substantial investments needed to support the projected high growth.

To calculate the terminal value, the terminal growth rate was forecasted at 2.5%, slightly above projected inflation to reflect the fact that Arterra will grow faster than the general economy. Cash flows are discounted using the mid-year convention, which assumes that cash flows are received evenly throughout the year rather than solely at the end. This method provides a more accurate reflection of the timing of cash flows. The terminal value represents 73.1% of the total enterprise value, with values below 80% typically considered standard in the valuation industry. Finally, net debt is based on the 2024 H1 figure, as this represents the most recent available reported data.

Our analysis led to a target price per share of €2.10.

Model Risk:

To address model risk—the possibility of incorrect assumptions—three scenarios were projected: a **base case**, a **best case**, and a **worst case**, each incorporating distinct assumptions that resulted in varying target prices. In particular, the reported prices per are **€1.62** and **€2.61** in the worst and best cases respectively.

Scenario switch:	Base Case

Assumptions	2024	2025	2026	2027	2028	2029	2030
Cost inflation	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**	**1.50%**
Base case	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Best case	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Worst case	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Sales price - $/unit	**255.0**	**260.0**	**265.0**	**265.0**	**265.0**	**265.0**	**265.0**
Base case	255.0	260.0	265.0	265.0	265.0	265.0	265.0
Best case	260.0	265.0	270.0	270.0	270.0	270.0	270.0
Worst case	250.0	255.0	260.0	260.0	260.0	260.0	260.0
Sales volume growth	**12.0%**	**12.0%**	**12.0%**	**12.0%**	**12.0%**	**12.0%**	**12.0%**
Base case	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%
Best case	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%
Worst case	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%
Research contract sales growth	**2.2%**	**2.2%**	**3.0%**	**3.0%**	**3.0%**	**4.0%**	**4.0%**
Base case	2.2%	2.2%	3.0%	3.0%	3.0%	4.0%	4.0%
Best case	2.7%	2.7%	3.5%	3.5%	3.5%	4.5%	4.5%
Worst case	1.7%	1.7%	2.5%	2.5%	2.5%	3.5%	3.5%
Government grants growth	**10.0%**	**10.0%**	**10.0%**	**8.0%**	**6.0%**	**5.0%**	**4.0%**
Base case	10.0%	10.0%	10.0%	8.0%	6.0%	5.0%	4.0%
Best case	10.5%	10.5%	10.5%	8.5%	6.5%	5.5%	4.5%
Worst case	9.5%	9.5%	9.5%	7.5%	5.5%	4.5%	3.5%

Additionally, a **sensitivity analysis** was conducted to account for risks associated with the terminal growth rate and WACC calculations, providing a comprehensive evaluation of potential valuation outcomes.

		Terminal Growth Rate										
		2.00%	2.10%	2.20%	2.30%	2.40%	2.50%	2.60%	2.70%	2.80%	2.90%	3.00%
WACC	8.45%	2.13	2.15	2.17	2.19	2.22	2.24	2.26	2.29	2.31	2.34	2.37
	8.55%	2.11	2.13	2.15	2.17	2.19	2.21	2.23	2.26	2.28	2.31	2.33
	8.65%	2.08	2.10	2.12	2.14	2.16	2.18	2.20	2.23	2.25	2.27	2.30
	8.75%	2.06	2.08	2.09	2.11	2.13	2.15	2.18	2.20	2.22	2.24	2.27
	8.85%	2.03	2.05	2.07	2.09	2.11	2.13	2.15	2.17	2.19	2.21	2.24
	8.95%	2.01	2.03	2.05	2.06	2.08	2.10	2.12	2.14	2.16	2.18	2.21
	9.05%	1.99	2.01	2.02	2.04	2.06	2.08	2.10	2.12	2.14	2.16	2.18
	9.15%	1.97	1.98	2.00	2.02	2.03	2.05	2.07	2.09	2.11	2.13	2.15
	9.25%	1.95	1.96	1.98	1.99	2.01	2.03	2.05	2.06	2.08	2.10	2.12
	9.35%	1.93	1.94	1.96	1.97	1.99	2.01	2.02	2.04	2.06	2.08	2.10
	9.45%	1.91	1.92	1.94	1.95	1.97	1.98	2.00	2.02	2.04	2.05	2.07

Relative Valuation:

Company	Ticker	Weightage by Total Market Cap	Adjusted Weightage	Beta 5 Year
Arterra Bioscience SpA	ABIS.MI	0.01%	30%	0.88
BRAIN Biotech AG	BNNn.DE	0.12%	25.00%	1.19
Croda International PLC	CRDA.L	10.24%	15.00%	0.83
EVONIK INDUSTRIES AG	EVKn.DE	10.86%	15.00%	1.01
Symrise AG	SY1G.DE	17.54%	5.00%	0.51
Novozymes A/S	NSISb.CO	17.62%	5.00%	0.77
GIVAUDAN SA	GIVN.S	43.62%	5.00%	0.98

In the implementation of a comprehensive relative valuation of Arterra using the market multiples, we have selected 6 comparable and diverse peers operating in biosciences, specialty chemicals, and biotechnology through the following methodology:

- **Geographic Presence:** all peers are European-based and have some global operations, providing insight into how Arterra may be able to scale internationally.
- **Industry Alignment:** all peers operate in industries closely related to bioscience, biotechnology, and specialty chemicals.
- **Product Overlap and Applications:** the selected peers have overlapping product applications and markets with Arterra Bioscience, particularly in areas like personal care, cosmetics, and food ingredients, like Croda International PLC and Symrise AG.
- **Sustainability and Innovation Focus:** all peers consider these areas as their key priorities for their strategy.
- **Scale and Market Presence:** the selected peers range in market presence and scale, capturing both established leaders and smaller innovators, providing a balanced benchmarking group. For instance, Arterra Bioscience SpA and BRAIN Biotech AG are both smaller-scale, innovation-driven companies in the biotechnology space, representing the lower end of the scale spectrum. Conversely, Givaudan SA and Novozymes A/S are larger players with established market leadership, providing a contrast to Arterra's growth-stage position.

Relative valuation was performed on both an enterprise and equity value basis, considering EV/Revenue with EV/EBITDA and P/E ratios respectively from 2023 and projected through 2025. It is important to note that each peer was assigned a specific weight based on their similarity to Arterra. In particular, the ratios of companies that are comparable to Arterra were assigned a higher weight. This was done to smooth out the differences among peers.

	EV/Revenue			EV/EBITDA			P/E		
Company	**2023**	**2024**	**2025**	**2023**	**2024**	**2025**	**2023**	**2024**	**2025**
Arterra Bioscience SpA	2.07 x	2.13 x	1.75 x	6.43 x	7.19 x	5.86 x	12.38 x	15.01 x	12.72 x
BRAIN Biotech AG	0.99 x	0.95 x	0.86 x	nm	nm	nm	nm	nm	nm
Croda International PLC	3.28 x	3.39 x	3.23 x	13.58 x	14.61 x	13.06 x	41.29 x	26.36 x	22.77 x
EVONIK INDUSTRIES AG	0.78 x	0.78 x	0.77 x	7.15 x	5.63 x	5.37 x	nm	10.94 x	10.41 x
Symrise AG	3.58 x	3.40 x	3.21 x	18.74 x	16.56 x	15.27 x	40.90 x	30.15 x	26.57 x
Novozymes A/S	10.14 x	6.17 x	5.76 x	30.54 x	17.39 x	15.33 x	34.08 x	39.01 x	30.78 x
GIVAUDAN SA	5.83 x	5.47 x	5.26 x	26.05 x	22.84 x	21.85 x	36.11 x	30.10 x	29.60 x
Mean Best Peers	3.81 x	3.81 x	2.98 x	17.08 x	14.04 x	12.79 x	32.95 x	25.26 x	22.14 x
Arterra Bioscience Mutliple	2.07 x	2.13 x	1.75 x	6.43 x	7.19 x	5.86 x	12.38 x	15.01 x	12.72 x
Discount on mean best peers	-46%	-44%	-41%	-62%	-49%	-54%	-62%	-41%	-43%
Price per share (€)	**2.41**	**2.20**	**2.38**	**2.70**	**2.29**	**2.46**	**2.63**	**2.11**	**2.17**

Multiples vary across companies due to differences in growth potential, profitability, market sentiment, size, risk perception, and external conditions like macroeconomic trends. Larger, established companies with higher margins, predictable cash flows, and diversified revenue bases naturally command higher multiples. In contrast, smaller, growth-stage companies like Arterra with less proven scalability, higher risks, and lower profitability will

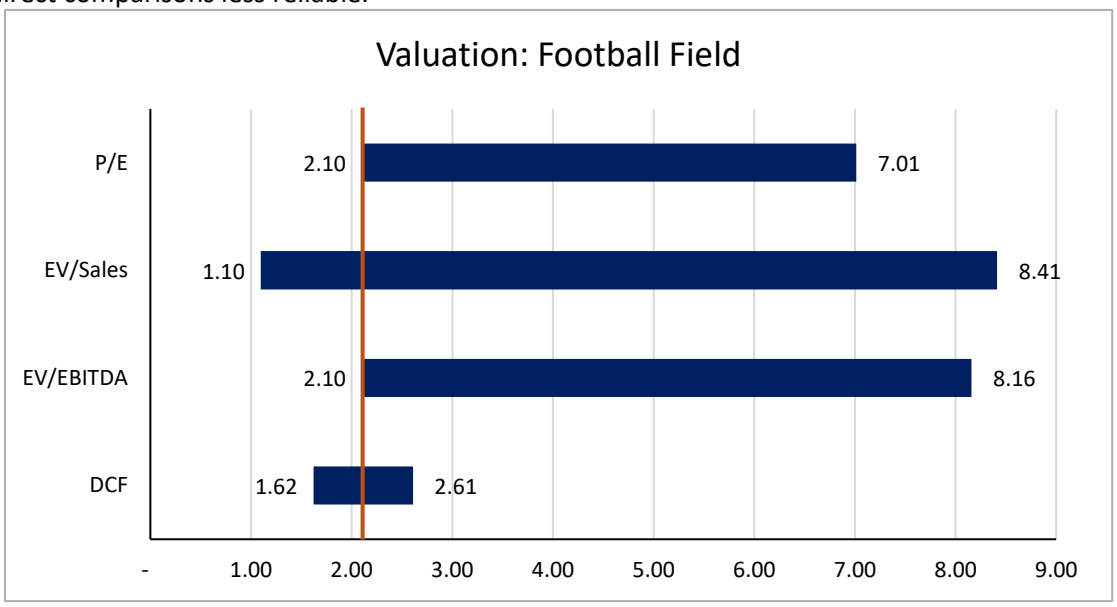
trade at a discount, approximately averaging between 45% and 50% below the peer mean throughout our time horizon. According to the data, Arterra consistently trades at a discount to its peers across key valuation metrics of EV/Revenue, EV/EBITDA, and P/E. However, this discount does not accentuate undervaluation, but rather suggests perceived differences in the limited scale, uncertainty about long-term profitability, and the early-stage growth trajectory of the company in relation to the larger peer group sample.

The multiples-derived share prices, ranging from €2.20 to €2.70, align marginally above the DCF-derived valuation, underscoring a market-driven adjustment influenced by larger peers. Specifically, our comparative valuation focus is contingent on the value of the share price observed in 2023, which averaged to approximately €2.58 across the multiples. This is slightly higher than the value obtained via DCF analysis but expected due to the impact of the larger peers sample. For 2023, the small discrepancy between the EV-based and equity-based valuations further highlights Arterra's relatively weaker operational multiples, suggesting upside potential if the company can expand revenue and EBITDA margins in line with the larger peers.

In conclusion, Arterra Bioscience SpA is trading at a relative discount across all valuation multiples to its sizeable peers. This reflects its smaller scale, perceived execution risks, and limited market presence. However, the relative alignment of multiples-based and DCF-based valuations emphasise the company's fundamental value and growth potential. If Arterra can demonstrate scalability in revenue growth and margin expansion, a re-rating to align closer with peers' means is likely, potentially unlocking significant upside in its share price.

Recommendation:

Combining intrinsic and relative valuation analyses, the target price for Arterra Bioscience SpA is estimated to range between **€1.10 and €8.41**, with the final recommendation aligning closely with the base case output of the DCF model at **€2.10**. This implies a **10.5% expected upside**, leading to a **buy recommendation**. The decision to prioritize the DCF valuation stems from the challenges in identifying truly comparable peers for relative valuation. The selected peer group consists of companies significantly larger and at more advanced stages in their lifecycle, making direct comparisons less reliable.



5. Risks:

It is critical to note that there are certain underlying risks associated with the business model of Arterra. Such risks are important for evaluation and assessment of the investment prospect of the company. For instance, Vitalab, the joint commercial venture between Arterra and Intercos, effectively serves as the main commercialization channel of the active compounds developed by Arterra, implying that a major portion of the revenue stream from the sales of cosmetics is dependent on the capability of Vitalab to market these products effectively. In effect, over-reliance and underperformance of this channel would directly affect sales volumes and revenues, as well as act as a bottleneck to strategic growth and scalability. To mitigate this effect of client concentration risk, it would be diligent for Arterra to invest in creating direct alternative distribution and marketing channels, thereby lowering the dependency on Vitalab for sales expansion and increasing diversification.

Moreover, Arterra does not retain full control over Vitalab's operations wherein Arterra holds a 25% equity stake, further constraining its ability to steer business decisions or set strategic initiatives. The power imbalance constricts Arterra into a reactive position rather than a proactive one and entails that Arterra cannot unilaterally mitigate risks or capitalize on opportunities that arise within the joint venture. This is further compounded by the market exclusivity restriction set in the agreement with Intercos, whereby newly developed active ingredients are exclusively used by Intercos in the first year and only after which it can be distributed more broadly via Vitalab, means that Arterra is constricted in immediately sourcing alternative revenue channels. To counteract such negative effects and dilute the concentration risk to Vitalab, it would be prudent for Arterra to negotiate greater influence on the governance structure of Vitalab to align with its own objectives and facilitate the enlargement of revenue from other sectors such as medical devices and agrifood.

Finally, Arterra initially relied on research grants from public institutions, which was the primary source of revenue in 2007, accounting for 55%. Expectedly, this reliance poses a financial risk due to the volatility and temporary nature of public funding in varying macroeconomic conditions, especially during economic downturns or shifts in government policy. Beginning in 2008, agreements with Intercos and the establishment of Vitalab facilitated a revenue transition from public grants to research contracts and the selling of active compounds. As such, the development of research contracts and the sale of active compounds accounted for 11% and 60% of total revenue respectively in 2022, reflecting a more sustainable and market-driven revenue base. However, public grants still contributed a substantial 33%, indicating ongoing dependency on external funding. Although Arterra has diversified its revenue streams, public grants remain a significant component of the revenue base, thereby exposing the company to risks of funding reductions or delays.

6. ESG Analysis:

Arterra Bioscience integrates ESG principles through the GRI (Global Reporting Initiative) standards and SDGs (Sustainable Development Goals) into its operations, focusing on sustainable innovation, inclusivity, and transparent governance.

Environmental: Initiatives of the company prioritize plant-based active ingredients and green biotechnologies, reducing waste and supporting the circular economy. Also, Arterra actively incorporates sustainable practices in its R&D processes, ensuring that its technologies align with the principles of a circular economy. The company's liquid culture production minimizes contaminants, with 86% of raw materials being natural. Collaborations, like with Montecarlo Fruit to upcycle fruit waste, reinforce its commitment to SDG 12 (Responsible Consumption and

Production). However, it is imperative to note that greater transparency on emissions and carbon footprint data is needed, for full disclosure.

Social: With a team of 37 employees, Arterra fosters an inclusive workplace with ethical labor practices and aligns with SDG 8 (Decent Work and Economic Growth). Its strong ties to local communities, particularly in Naples and Campania, support economic development in undeveloped areas through sustainable sourcing and projects like Est(ra)Moenia. The company also contributes to poverty reduction (SDG 1) by promoting equal economic opportunities. While impactful, scaling these initiatives globally could broaden their reach.

Governance: Arterra emphasizes transparency and strategic partnerships. The company adheres to GRI standards and aligns with SDGs through a Materiality Map, which is an assessment to identify priority issues for stakeholders, thereby integrating global sustainability priorities into corporate strategy to align with global ESG benchmarks. With 18 patents across industries and collaborations with leaders like Intercos, Arterra ensures innovation and compliance. However, its reliance on key partnerships like Vitalab poses risks to autonomy and scalability. By diversifying channels and strengthening governance, Arterra can further enhance its ESG impact and resilience.

References

1. Grand View Research. (2023). Biotechnology Market Analysis.
2. MarketsandMarkets. (2024). Global Biotechnology Industry Outlook.
3. BioTech Times. (2024). Emerging Trends in Biotechnology.
4. Deloitte Insights. (2023). Global Life Sciences Sector Outlook.
5. Statista. (2024). Consumer Demand for Natural Products.
6. McKinsey & Company. (2023). The Future of Sustainability in Biotech.
7. BioWorld. (2024). AI and Biotechnology: Future Directions.