

Company: **Arterra Bioscience** Rating: **Buy** Target Price: **€3.2 (from €4.5)** Sector: **Health Care, Biotech**

1H23: the worst is over (?)

 October, 13th 2023 at 18:00

1H results: slowing Cosmetics turnover; EBITDA margin hit by low volumes. Cash generating, still.

Arterra Bioscience released 1H23 turnover at €1.6mln, down by 25% yoy. Cosmetics turnover declined by almost 30% yoy continuing the slowdown which had started in 3Q22 (from +28% yoy in 1H22 to +5% yoy in 9M22). Other than being a challenging comparison to 1H22, sales rose in Europe and North America where demand for make-up ingredients had been growing, but recovery in China is still very slow. Cosmetics volumes have started to decline since the 3Q22 for four consecutive quarters at an average above 30%. In 1H23, just above 5,000 kgs have been produced, some 38% of our FY23E [Company Update on April, 20th 2023]. EBITDA declined to €366k from €1.2mln in 1H22 with margin at 17% vs 44% a year earlier. At the end of June, despite significant reduction in EBIT, adjusted Net cash (which excludes current financial assets) was basically flat at €3.8mln.

Industry trends: Chinese restrictions on Cosmetics; declining sales and lower margins.

During 1H23 presentation and Company visit at the end of September, we got additional information about new Chinese restrictions on active ingredients imports. China introduced new rules on active ingredients to be used in Chinese cosmetics; therefore, Arterra had to adapt and test its active compounds according to new Chinese rules. This process has finally ended and now Arterra's entire portfolio is China compliant. It is worth to note that main listed peers have been experiencing similar impacts in 2023 with declining turnover and contracting EBITDA margin.

Strategy and Research activities update.

The founder and CEO, Gabriella Colucci together with her team, led by Vincenzo in the Scientific Committee and Giuseppe as the Head of Production, gave us an update on molecular research and plant extraction. In Cosmetics (skincare and makeup), new products have been launched; in Haircare new extracts are to be patented for stimulating hair growth and strengthening. In-vitro research, especially on skin and on the intestine, led to new contracts in Agri-Food with Monte Carlo Fruit and new products and clinical studies in Medical Device with ADL and ABR for treating acne, atopic rash and Irritable Bowe Syndrome. Finally, a new potentially disruptive proprietary enabling technology based on a new bacterial system might lead to innovative compounds in Medical Devices and Pharma.

2023E-2026E estimates cut amid 1H results. Signs of recovery in 3Q23.

1H23 turnover was only 39% of our FY23 estimate and EBITDA margin more than 20pp below our FY23 forecast [Company Update on April, 20th 2023]. Therefore we made some downward adjustments to our projections. According to management, 3Q23 has showed some signs of recovery with selling volumes up by some 20%. This recovery comes mainly from Europe and US where demand for functional make-up has been strongly growing and to a much less extend from China's slow recovery. We expect this path to continue in the last quarter and we based our turnover downward revision on this assumption. We now expect 9% 2022-2025E Cosmetics sales CAGR, halving our previous forecast at 18%. We delayed further and beyond 2025 significant contribution to turnover by new end-markets. We now project EBITDA margin recovering from 17% in 1H23 to 41% in 2025, in line with 2022.

Valuation: BUY confirmed; price target reduced.

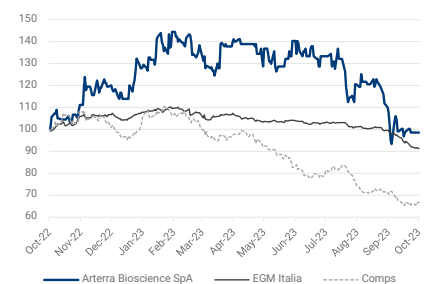
Market multiples have decreased further since our last report both in terms of EV/SALES and EV/EBITDA. The sample of listed international peers now trades at an average of 2x EV/SALES and 11.5x EV/EBITDA 2023-2024 vs previous 4.6x and 12.3x respectively. We confirm our BUY recommendation but reduce our 12-month target price to €3.2 after more than 20% cut in cumulated FCFs and Terminal Value FCF, higher WACC, smaller Vitalab results and lower market multiples.

Company Profile		
Ticker	ARBS IM (BBG)	ABS-IT (Factset)
Reference Industry	Health Care - Biotech	
Stock Exchange	Italian Stock Exchange - Euronext Growth	
Reference Index	FTSE Italia Small Cap	
Market Data		
Price as of	11/10/2023	1.7
Number of shares (mln)		6.7
Market capitalization (€, mln)		11.3
Max / Min		5.0/1.6
Average daily volumes (1Y)		15,960

Key financials	2020	2021	2022	2023E	2024E	2025E
€'000)						
Total revenue	4,308.5	4,608.2	5,303.4	4,613.4	5,225.4	5,966.4
yoy (%)	19%	7%	15%	-13%	13%	14%
EBITDA	1,601.7	1,735.5	2,132.6	1,189.9	2,003.3	2,445.5
margin (%)	37%	38%	40%	26%	38%	41%
EBIT	1,201.3	1,248.2	1,600.7	629.6	1,358.0	1,675.3
margin (%)	28%	27%	30%	14%	26%	28%
Net Income	1,108.5	1,110.5	1,414.0	672.4	1,246.5	1,498.8
margin (%)	26%	24%	27%	15%	24%	25%
Net Debt	(4,066)	(4,199)	(3,796)	(6,243)	(6,651)	(7,647)
Equity	8,180.9	9,472.7	10,466.9	10,313.4	11,158.6	11,985.9
Capex	382.6	609.1	183.6	100.0	750.0	500.0
FCFs	491.0	368.6	757.4	1,304.0	631.1	1,486.7

Source: Banca Profilo estimates and elaborations, Company data.

1-Year Performance



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SWOT analysis

STRENGTHS

- Outstanding R&D and high qualified Technology Team
- A global market reach with limited sales force investments thanks to the partnership with Intercos and the equity stakes in Vitalab and ADL
- Scalable business model as products and the in-house developed IPs can be applied simultaneously to different end-markets
- Profitable business model, since its set up, for a very low cost of raw materials and an efficient and light organizational structure

WEAKNESSES

- Small size of the business
- End-markets concentration
- Non optimal cash management

OPPORTUNITY

- Bioscience great momentum as product sustainability has become the key mission of many industries
- Significant growth potential and resilience of main end-market, the cosmetic industry
- Rich opportunities in Nutraceutical and Agri-food

THREATS

- Effective end-markets diversification within the planned time frame
- Potential difficulty in maintaining the independence from global multinational brands

The Industry

China restrictions on cosmetics ingredients. Strong demand of functional make-up from US

Chinese restrictions on active compounds imports

During 1H23 presentation and Company visit last week, we got additional information on new Chinese restrictions on active ingredients imports. China introduced new rigid limits on active ingredients to be used in Chinese cosmetics formulas. China State Council released a final version of rules which replaced the existing Cosmetics Hygiene Supervision Regulations. China's new regulation in Cosmetics includes many changes: i) new cosmetics definitions, scope, and classifications; ii) new management of cosmetics ingredients; iii) additional efficacy claims requirements; iv) safety assessments for cosmetics products and new requirements for safety assessors.

Consequently, Arterra had to adapt and test its active compounds according to new Chinese rules. Moreover, the rest of the value chain had significant stock piling that need to be sold in the rest of the world, contracting the demand for active ingredients outside China.

This process has finally ended and now Arterra's entire portfolio of active ingredients is China compliant.

Robust demand for functional make-up

Opposite, Cosmetics demand from Western countries remains solid especially for functional make-up in the US.

Arterra Bioscience competitive arena: strategic positioning and competitive advantages

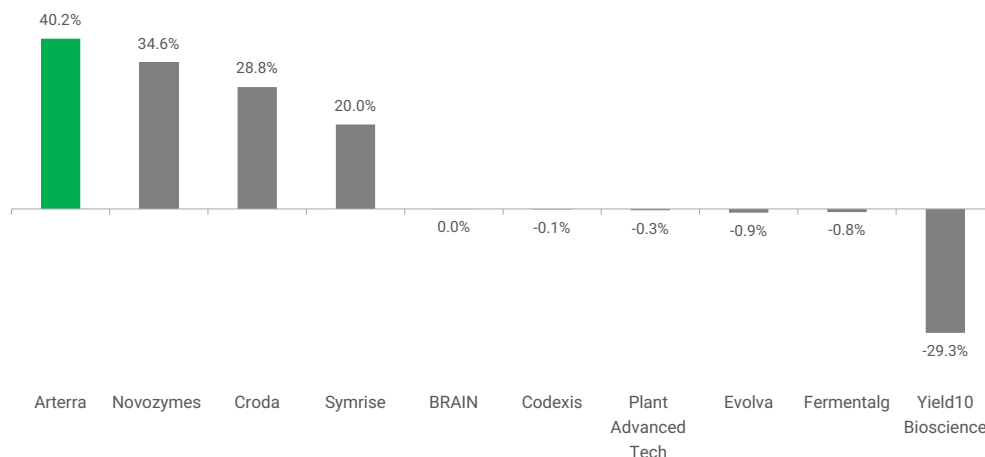
European and US listed biotech

The competitive scenario comprises European and US listed biotech companies active in the research and development of natural substances for industrial green applications.

Arterra profitable business model differs from peers

Main difference between Arterra and its comparables is profitability. Furthermore, Arterra has funded its research, investments, and growth through research grants (at the beginning) with no additional either funds or venture capital needed.

Figure 1: Main international listed players in the Industry – EBITDA margin in 2022



Source: Banca Profilo elaborations on Company data, Factset

The negative EBITDA margin has been divided by 100 in order to make a graphic representation of the competitive arena

In 2022 Arterra confirmed the highest EBITDA margin

Since its foundation, in 2004, Arterra has been showing positive EBITDA, whereas its peers show either negative marginality or much lower profitability than Arterra. We set a sample of listed peers which includes the German Brain and Symrise, the British Croda, the French

FermentaIlg and Plant Advanced Techonogy, the Swiss Evolva, the Danish Novozymes and the US Codexis and Yield 10 Bioscience. Moreover, we added more mature specialty chemicals companies that have little operations in Natural Resources, such as Lonza, Ashland, OCI and Wacker Chemie.

In 2022, Arterra reported 40% EBITDA margin, highest among peers' sample..

B.R.A.I.N. (DE)
€51mln turnover -
€50k EBITDA

Biotechnology Research and Information Network AG, is a German industrial biotech company active in both BioSciences, for research and development, and BioIndustrial, for the development, of own products addressed to companies or end consumers. Main products are enzymes, biocatalysts, strains and bioactive natural substances. The Company discovers and develops biotech compounds and microbial producer strains. Its end markets are mainly: Chemicals, Cosmetics, Food and Medical technology, as well as Energy companies, Consumer goods manufacturers and the green Mining sector.

Croda (UK)
GBP 2bn turnover
29% EBITDA margin

Croda International Plc, is an English holding of a group of companies that develop specialty chemicals, including oleochemicals (derived from natural oils) and industrial chemicals. Its main end markets are: Consumer Care (35%), including Personal care (natural ingredients for hair, skin especially anti-aging, sun care), Life science (health care and Agriculture with ingredients and formulation to pharma and nutritional markets such as dermatology and animal health and to agrochemical companies); Performance Technologies (34%), to which it delivers high-added value additives such as lubricants for the Automotive and Industrial sectors, coatings and polymers serving Oil & Gas, Water treatment, Packaging sector and Home care ingredients serving Households product manufacturers; Industrial Chemicals (11%) including process additives (fatty acids, glycerin...) to Textiles and other Industrials such as Engineering and Automotive. It is mostly exposed in Western Europe (40%), North America and Asia Pacific.

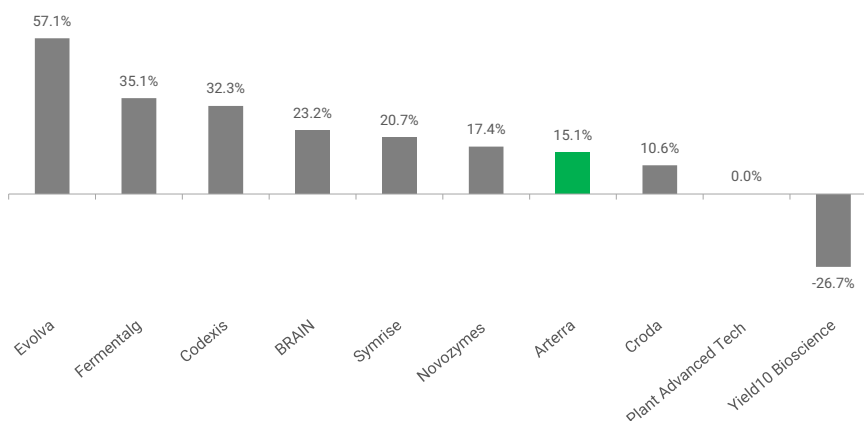
Symrise (DE)
€4.6bn turnover
20% EBITDA margin

Symrise AG, is a German developer of fragrance bases, perfume oils, cosmetic raw materials and active ingredients, plant extracts, aroma chemicals, flavorings, fruit powders and seasonings, mostly based on natural raw materials. It addresses mainly to: Cosmetics, Personal care, Household care, Food & Beverage and Pharmaceuticals. Half of its sales come from Europe.

Evolva (CH)
CHF 15mln turnover
CHF -14mln EBITDA

Evolva Holding SA is a Swiss biotech firm that manufactures sustainable ingredients for use in Food, Nutrition, Personal Care and Agriculture. Mostly uses biosynthetic and evolutionary technologies to create and optimize small molecule compounds and their production routes. Main products/ingredients: stevia sweeteners, nootkatone and resveratrol. Their processes start from plants (sugar from wheat or maize) and use yeast through fermentation.

Figure 2: Main international listed players in the Industry – yoy growth in 2022



Source: Banca Profilo on Company data, Factset

Fermentalg (FR)
 €7.6mln turnover
 € -6mln EBITDA

Fermentalg SA, is a French industrial biotechnology company that obtain active ingredients from micro algae. It is an expert in microalgae culture and their industrial fermentation processes. Its main products are molecule including Omega 3 fatty acids, natural pigments antioxidants, proteins and biopolymers. It addresses its production to the following end-markets: Agri-food, Healthcare, Nutrition (human and animal) and Petrochemical industries.

Plant Advanced (FR)
 €2.3mln turnover
 € -800k EBITDA

Plant Advanced Technologies SA is a French plant biotechnology firm manufacturing rare new actives for Cosmetics, Pharmaceutical and Agriculture. Its main products are proteins from the liquid of carnivorous plants and other actives from the roots of various plants.

Novozymes (DK)
 DKK 17.5bn turnover
 35% EBITDA margin

Novozymes, a Danish biotech-based company that research, develops and obtain enzymes for Industrial usage and addresses them to the technical enzyme market, the food enzyme market and the animal feed enzyme market.

Codexis (USA)
 USD 139mln turnover
 USD -18mln EBITDA

Codexis Inc. is an American developer of protein and biocatalysts through an easy-on-the-environment technology that allows to scale-up and implement biocatalytic solutions for chemical processing. Relevant end-markets include Pharmaceuticals and Chemicals. It has a research agreement with Shell (half of Codexis' sales) to develop new ways of converting biomass into biofuel. It is also working to use its technology to manage carbon emissions from coal-fired power and treat wastewater. Some of its biocatalysts and enzymes are used to produce cholesterol-fighting drugs, allergy drugs and antidepressants. Americas represent almost 60% of Codexis' sales.

Yield10 Bioscience
 USD 500k turnover
 USD -13mln EBITDA

Yield10 Bioscience Inc. is an American agricultural bioscience company which focuses on the development of disruptive plant biotechnologies to improve crop productivity and seed yield and enhance global food security. The goal is to improve fundamental elements of plant metabolism through enhanced photosynthetic efficiency and directed carbon utilization. Most of its treatments are applied to canola, soybean, and corn to increase tolerance to drought, flooding and heat and thus raise their food productivity.

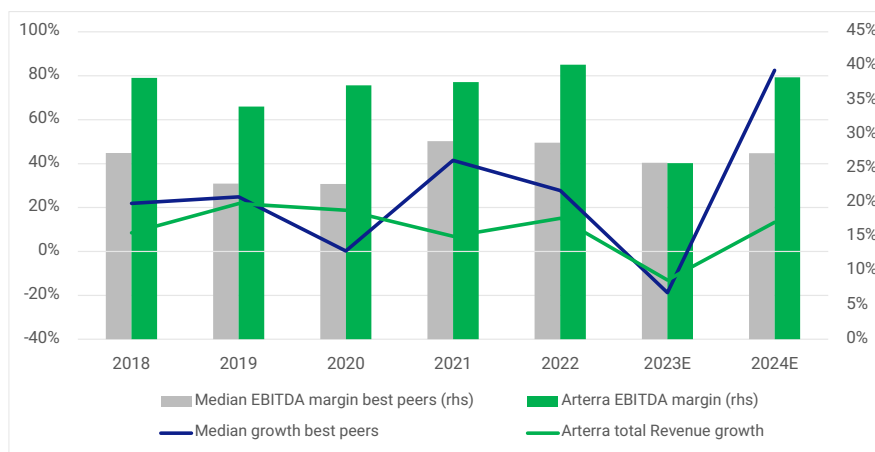
In 2022 Arterra slower growth

In 2022, Arterra reported 15% yoy total revenue growth, which compares to the peers' sample average of 18%.

2023 a complex year for all

2023 is a complex year within a persisting uncertain scenario for all players in the Industry. Arterra's best peers have been growing above 20% on average in 2018-2022. In 2023 consensus projections point to an average decline in sales close to 20%. Moreover, the selected sample of peers show contracting marginality in FY23E and, despite worsening EBITDA in 1H23, Arterra will likely show an EBITDA margin in line with the average of the Selected Sample.

Figure 3: Sales growth and marginality 2018-2024E – Sample average vs Arterra



Source: Banca Profilo on Company data, Factset

1H23 results

Slowing cosmetic turnover; EBITDA margin hit by low volumes. Cash generating, still.

1H23 top line	Arterra Bioscience released 1H23 turnover at €1.6mln, down by 25% yoy. Cosmetics turnover (more than 80% of total turnover) declined by 30% yoy continuing the slowdown which had started in 3Q22 (from +28% yoy in 1H22 to +5% yoy in 9M22). Other than being a challenging comparison to 1H22 (when turnover increased by 25% yoy), sales rose in Europe and North America where demand for make-up ingredients had been growing, but recovery in China is still very slow. In terms of volumes, these have started to decline since the 3Q22 for four consecutive quarters at an average above 30%. In 1H23, just above 5,000 kgs have been produced (-32% yoy), some 38% of our FY23E [<i>Company Update on April, 20th 2023</i>]. Total revenue fell 23% yoy to €2.1mln with research grants still weighing more than 30% (€660k).
Cosmetic turnover -30% yoy	
Total revenue -23% tot	
Increasing raw materials, service and labor costs above 4-year average	Raw Materials and Services costs increased their weight on Total Revenue to 42% which compares to a 4-year average of 30%. Similar increase for Labour cost which rose its weight on Total Revenue to 38% from a 4-year average of 30%. Declining volumes and Revenue hit EBITDA in 1H23 to €366k from €1.2mln a year earlier and margin weakened to 17% from 44% in 1H22. It is worth noting that 1H22 was the best semester ever with Total Revenue at almost €2.8mln and EBITDA margin at 44%. Hence, in 1H23 the yoy comparison remains very challenging.
Net cash basically flat despite significant EBIT reduction	A the end of June, despite significant reduction in EBIT, which decreased to €104k from €937k a year earlier, adjusted Net cash (which excludes current financial assets) remained basically stable at €3.8mln and Free Cash Flow was €500k, mainly driven by some €200k net working capital reduction.

Table 1: Arterra P&L 1H19-1H23

Profit & Loss						
	€/000	1H19	1H20	1H21	1H22	1H23
Cosmetic turnover		1,269	1,234	1,423	1,822	1,285
yoy		19%	-3%	15%	28%	-30%
Research contracts and services		270	273	272	304	308
yoy		1%	1%	0%	12%	1%
Total turnover		1,539	1,507	1,695	2,126	1,593
yoy		45%	-2%	12%	25%	-25%
cosmetic volumes (kg)		4,902	4,239	5,913	7,407	5,019
yoy		60%	-14%	39%	25%	-32%
avg cosmetic price (€/kg)		259	291	241	246	256
Research grants and stock changes		334	567	372	640	527
% on total revenue		22%	38%	22%	30%	33%
Total Revenue		1,873	2,074	2,066	2,766	2,119
yoy		40%	11%	0%	34%	-23%
raw materials cost		(213)	(297)	(149)	(229)	(210)
cost of services		(314)	(455)	(507)	(507)	(678)
% on total revenue		28%	36%	32%	27%	42%
cost of labour		(551)	(604)	(684)	(754)	(800)
% on total revenue		29%	29%	33%	27%	38%
lease		(43)	(43)	(43)	(44)	(36)
other operating costs		(9)	(59)	(41)	(28)	(29)
EBITDA		743	616	641	1,205	366
margin		40%	30%	31%	44%	17%
# employees		22	30	29	32	37
labor cost per unit		(25)	(20)	(24)	(24)	(22)
D&A		(49)	(182)	(222)	(268)	(262)
% on total revenue		4%	10%	12%	11%	13%
EBIT		694	434	419	937	104
margin		37%	21%	20%	34%	5%
net financial income (expenses)		4	(3)	0	(5)	161
% on total revenue		0.2%	-0.2%	0.0%	-0.2%	7.6%
EBT		697	431	419	932	265
margin		37%	21%	20%	34%	12%
taxes		(69)	(87)	(28)	(253)	(16)
tax rate		10%	20%	7%	27%	6%
Net income		628	344	391	679	249
% on total revenue		34%	17%	19%	25%	12%

Source: Banca Profilo on Company data

No material changes in Balance Sheet at the end of June 2023

Concerning the Balance Sheet, no major changes occurred at the end of June 2023 compared to the end of December 2022. Net operating Working Capital slightly decreased in the first semester, but it is still above 50% of 12-month Total Revenue, basically in line with end of 2022.

Table 2: Arterra Balance Sheet 30.06.2019-2023

Balance Sheet					
€/000	30.06.19	30.06.20	30.06.21	30.06.22	30.06.23
tangibles	765	1334	1452	1624	1382
intangibles	238	653	522	346	116
financials	452	452	812	949	982
Fixed assets	1,456	2,440	2,786	2,919	2,480
other current net receivables	343	678	712	779	336
receivables from grants	530	287	611	294	1,174
trade receivables	396	530	528	716	463
inventories	274	491	455	872	1,014
trade payables	(161)	(204)	(212)	(218)	(185)
Net operating Working Capital	1,039	1,105	1,382	1,665	2,466
Net Working Capital	1,382	1,782	2,094	2,444	2,802
Capex	949	186	305	56	21
<i>tangible</i>	572	157	270	56	21
<i>intangibles</i>	377	29	34	0	0
Provisions	(550)	(476)	(540)	(550)	(718)
Invested Capital	2,288	3,747	4,340	4,813	4,564
shareholders' equity	250	329	330	333	333
reserves	2,009	6,668	7,851	8,720	9,468
net income	628	344	391	679	249
Equity	2,888	7,341	8,572	9,731	10,050
Net debt (cash)	(600)	(3,595)	(4,232)	(4,919)	(5,486)
Adjusted net debt (cash)	2	(3,075)	(3,796)	(4,919)	(3,815)

Source: Banca Profilo on Company data

Some FCF generation despite poor EBIT

Despite the very thin EBIT in the 1H23 (€104k), Arterra generated more than €500k Free Cash Flow helped by declining Net operating Working Capital and very low capex.

Table 3: Arterra Free Cash Flows 1H19-1H23

Free Cash Flows					
€/000	1H20	1H21	1H22	1H23	
EBIT	694	434	419	937	104
tax (figurative)	(173)	(108)	(105)	(234)	(26)
D&A	49	182	222	268	262
change in Net Working Capital	663	(270)	(75)	133	182
capex	(949)	(186)	(305)	(56)	(21)
Free Cash Flow	52	156	1,048	502	

Source: Banca Profilo on Company data

Strategy Update

Focus on: research and production processes optimization

Over €3mIn capex since 2019 to enhance research capabilities, scale up production and increase productivity

Since 2019, Arterra increased its production capacity and research activity investing over €3mIn. In 2021, The Company extended further its production plant, bought additional equipment, and invested in technology to enhance cellular growth. Among relevant investments: i) equipment for “ex vivo” tests on skin and human tissues for innovation in Nutraceutical and medical devices; ii) new lyophilizers; iii) expanding chemical laboratories for cellular growth. These investments led to an increase in productivity from 21kgs/day in 2021 to 50kgs/day in FY22.

Table 4: Arterra new laboratories

Year	Fulfilled orders (kg)	Productivity kg/day	Productivity Euro/day	Outsourcing (Euro)	
				Cell Culture	Lyophilization
2019	8860	9	3150	147.800	8.800
2020	9117	21	7350	272.636	8.000
2021	13.335	21	7.350	14.400	20.000
2022	E. 14.500	50	17.500	62.560	8000

Source: Company data

Simplifying and streamlining research and production processes

In 2020-2022 Arterra strengthened its organization by appointing a COO (Giuseppe Ferrante), an R&D Coordinator (Vincenzo Fogliano), a Grant & IP Director (Marida Bimonte), a Cell & Molecular Biology Director (Annalisa Tito) and a Marketing & Sales Project Manager (Maura Angelillo). At the end of June 2023, there were 37 employees, including 13 PhDs, 11 with a Master of Science and the remaining with either a Bachelor’s degree in Science or a Tech Diploma.

Figure 4: Arterra top management



Gabriella Colucci
CEO



Vincenzo Fogliano
CSO



Giuseppe Ferrante
COO



Marida Bimonte
Grant & IP
Director



Annalisa Tito
Cell & Mol Biol.
Director



Maura Angelillo
Marketing & Sales Project
Manager

Source: Company data

Introducing the Middle Management for better Research process transmission

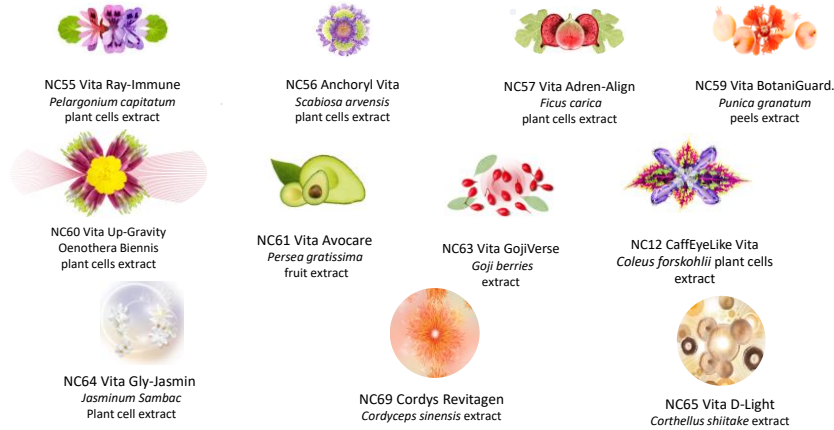
In 2023, Arterra introduced a new organizational layer, the Middle management to streamline research and production processes. Within this new organization, research ideas arise from multidisciplinary research units with all processes managed by an internal technical-scientific Committee. This process is constantly on track to catch new opportunities. Every 15 days, the Company takes part to the seminar “Science for Breakfast” on new topics, with the aim to find hints and ideas for the next project.

Figure 5: Arterra top management

Vitalab-Intercos co-working

capitatum stem cells for Cosmetics use and iv) Cannabis Sativa cell culture for use in Cosmetics, Pharma, and Nutraceutical. Since 2021, Research has been also driven by specific suggestions provided by Vitalab thanks to continuous inputs received from Intercos.

Figure 7: Innovation in Cosmetics - Skincare and Makeup

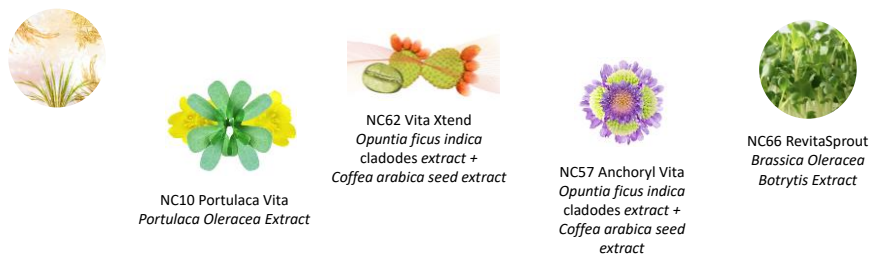


Source: Company data

A new industrial application: Haircare

More recently and driven by the acquisition of Cosmit by Intercos, Arterra started research for a new industrial application: Haircare. A patent for some active ingredients able at stimulating hair growth has been filed.

Figure 8: Innovation in Cosmetics - Haircare



Source: Company data

Medical Devices: Arterra-ADL

Moving into Medical Devices, in April 2021, Arterra signed its first agreement with ADL Farmaceutici for a 5-year production and licence of mix of four active compounds named "ArterraBio Complex I" against skin acne. This first agreement became a stake acquisition when, in June 2021, Arterra subscribed the capital increase by ADL acquiring a 6.81% stake.

Patents in Medical Devices

Arterra and ADL are also working for the development of a product for the treatment of atopic dermatitis, both through topical and oral use.

Arterra-University of Florence

In 2020-2023, two extracts have been patented: olive and prickly pear leaf extract for preventing and treating atopic dermatitis; Punica granatum peels extract for treating viral infections.

Arterra- ABR

Finally, Arterra and ABR (Croda Group) are starting a clinical study for co-development of a valid natural product able to treat the Irritable Bowel Syndrome.

Figure 9: Arterra's diversification into Medical Device

Acne control			Commercialized by
			
Atopic dermatitis	102021000020309. Estratti derivati da olive e pale di fico d'India per l'uso nella prevenzione e nel trattamento della dermatite atopica.		Clinical Study – in progress
			
Irritable Bowel Syndrome (IBS)	Validation of natural product		
	Co- Development		Clinical Study – to be started
		<i>Source: Company data</i>	

**Agri-food:
Arterra-
MONTECARLOFRUIT**

Arterra continues with research in Agri-food. In June 2021, Arterra and Montecarlofruit signed a research agreement for the up cycling of the mango waste. Montecarlofruit is active in the production of aseptic mango fruit puree for baby food, in Mali. Further development into Nutraceutical is ongoing.

Figure 10: Research agreement Arterra-Montecarlofruit

Co- Development



Up-cycling of the mango waste.



MANGO SUPER - PUREE

UNDER EVALUATION BY BABY FOOD BRANDS



Mangiferin

Metabolic Disorders

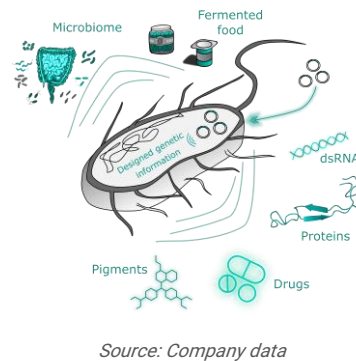
IN DEVELOPMENT

Source: Company data

New proprietary enabling Technology

Finally, a new potentially disruptive proprietary enabling technology based might lead to innovative compounds in Agriculture, Medica Devices, Agri-food and even Pharma. It concerns the possibility of expressing in a bacterial system, more common, more “acceptable” and less “dangerous” than currently used E.coli. This can be an alternative tool for synthetic biology and precision fermentation. 3 new proprietary strains have been registered and a patent on genetic elements is almost ready to be filed.

Figure 11: New Proprietary Enabling Technology



Estimates update

2023-2026 estimates revision

We updated our estimates on the back of 1H23 results

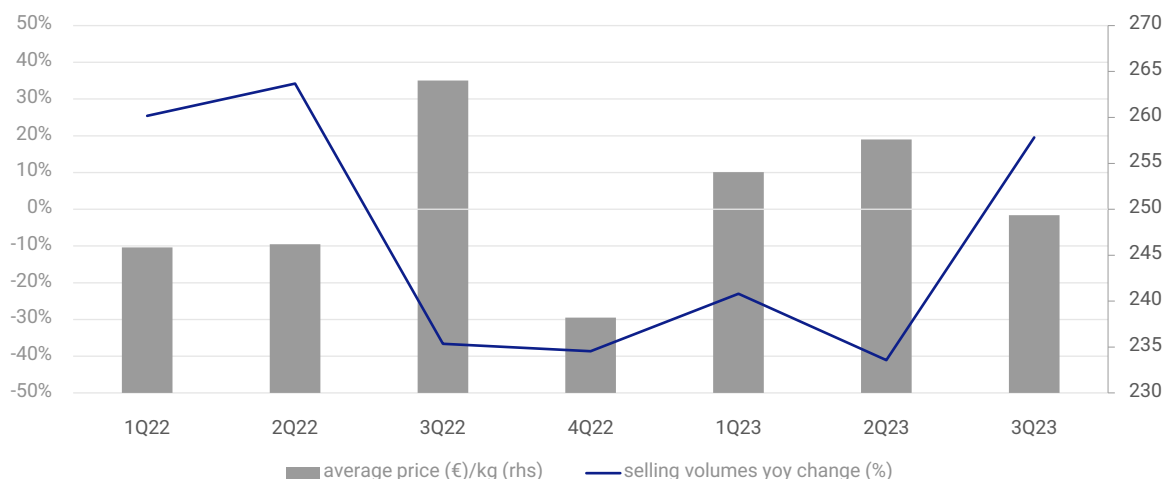
Cosmetics turnover growth recovery from 2H23.

Potentially the best year even in 2024

In this report we update our previous 2023-2025 projections [*Company Update on April, 20th 2023*], amid 1H23 results, according to strategic development and management guidance.

1H23 turnover was only 39% of our previous FY23 estimate [*Company Update on April, 20th 2023*]. According to management, 3Q23 has been showing some signs of recovery with selling volumes up by some 20% at an average price of €260/kg. This recovery comes mainly from Europe and US, where demand for functional make-up has been strongly growing and to a much less extend from China. We expect this recovery path to continue in the last quarter and we based our FY23 turnover downward revision on this assumption. According to management, new demand from functional demand from Europe and US together with a much clear rebound from China will lead to robust growth and marginality in FY24, which might be Arterra's best year ever.

Figure 12: New Proprietary Enabling Technology



Source: Banca Profilo on Company data

FY23 Total Revenue at €4.6mIn (-13% yoy)

More in details, we project 20% yoy increase in selling cosmetics volume in the 4Q23, in line with growth in 3Q23, at a stable average price of €254/kg. We end up with 10,600 kgs sold and €2.7mIn cosmetics turnover in 2023, down 10% yoy. We added €600k of Research contracts and services turnover and some €1.3mIn of research grants, ending with €4.6mIn Total revenue or -13% yoy. This compares to €5mIn previously projected.

We delayed further and beyond 2025 the ramp up of new-end markets

Overall, we now expect 9% 2022-2025E Cosmetics sales CAGR, halving our previous forecast at 18%. We now target over 15,000 kgs in Cosmetics selling volumes in 2025 (vs previous 20,000 kgs). Moreover, we delayed further and beyond 2025 significant contribution to turnover by new end-markets (Nutraceutical and Agri-food). This compares to cumulated €900k previously projected in 2024-2025.

EBITDA margin back to above 40% in 2025E

We now project EBITDA margin recovering from 17% in 1H23 to 41% in 2025, in line with 2022 but some 6% below our previous expectations. Cost of services will reduce their incidence on Total revenues starting from 2024E, when they will return to 30% as in 2022; opposite, we project the weight of Labour cost on Total revenues to stay higher at 27% in 2025 which compares to our previous estimate at 21%.

Table 5: P&L estimates revision 2023-2025

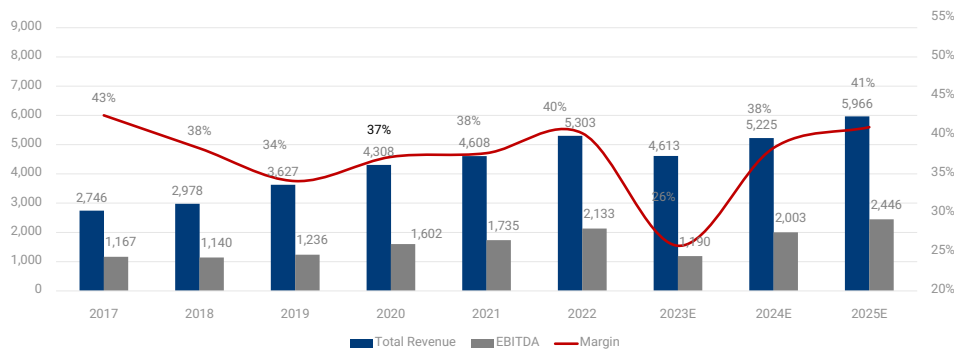
Profit & Loss													
€/000	2017	2018	2019	2020	2021	2022	2023E old	2023E new	2024E old	2024E new	2025E old	2025E new	
Cosmetic turnover	1,503	1,868	2,167	2,281	3,253	2,984	3,297	2,677	3,989	3,212	4,907	3,855	
yoy		24%	16%	5%	43%	-8%	11%	-10%	21%	20%	23%	20%	
Nutraceutical/Medical Devices	0	0	0	0	0	0	0	0	300	0	600	0	
Agriculture/Agri-food	0	0	0	0	0	0	0	0	0	0	0	0	
Research contracts and services	551	559	542	541	573	580	500	616	617	627	759	656	
Licences and royalties	0	0	0	0	0	0	0	0	0	0	0	0	
Total turnover	2,054	2,427	2,709	2,822	3,826	3,563	3,797	3,293	4,906	3,840	6,266	4,511	
yoy		18%	12%	4%	36%	-7%	7%	-8%	29%	17%	28%	17%	
cosmetic volumes (kg)	5,690	7,142	8,839	9,117	13,342	12,036	13,300	10,555	16,093	12,666	19,795	15,200	
yoy		90%	26%	24%	3%	46%	-10%	11%	-12%	21%	23%	20%	
avg cosmetic price (€/kg)	264	262	245	250	244	248	248	254	248	254	248	254	
Research grants and stock changes	692	551	917	1,487	783	1,740	1,200	1,320	1,260	1,386	1,323	1,455	
% on sales		25%	18%	25%	35%	17%	33%	24%	29%	20%	27%	24%	
Total Revenue	2,746	2,978	3,627	4,309	4,609	5,303	4,997	4,613	6,166	5,226	7,589	5,967	
yoy		45%	8%	22%	19%	7%	15%	-6%	-13%	23%	13%	23%	
raw materials cost	(210)	(259)	(455)	(525)	(318)	(507)							
cost of services	(466)	(533)	(726)	(873)	(986)	(1,140)	(1,501)	(1,847)	(1,853)	(1,570)	(2,280)	(1,793)	
% on total revenue		25%	27%	33%	32%	28%	31%	30%	40%	30%	30%	30%	
cost of labour	(736)	(847)	(1,025)	(1,128)	(1,228)	(1,391)	(1,446)	(1,446)	(1,522)	(1,522)	(1,598)	(1,598)	
% on total revenue		27%	28%	28%	26%	27%	26%	29%	31%	25%	21%	27%	
lease	(123)	(146)	(146)	(151)	(158)	(83)	(83)	(73)	(83)	(73)	(83)	(73)	
other operating costs	(43)	(53)	(38)	(30)	(184)	(51)	(51)	(57)	(51)	(57)	(51)	(57)	
EBITDA	1,167	1,140	1,236	1,602	1,736	2,133	1,916	1,190	2,658	2,003	3,577	2,446	
margin		43%	38%	34%	37%	38%	40%	38%	26%	43%	38%	47%	
# employees	n.a.	20	28	30	35	36	38	38	40	40	42	42	
labor cost per unit		(42)	(37)	(38)	(35)	(39)	(38)	(38)	(38)	(38)	(38)	(38)	
D&A	(143)	(73)	(296)	(400)	(487)	(532)	(585)	(560)	(670)	(645)	(780)	(770)	
% on total revenue		5%	2%	8%	9%	11%	10%	12%	12%	11%	12%	10%	
EBIT	1,024	1,067	940	1,201	1,249	1,601	1,331	630	1,988	1,358	2,797	1,676	
margin		37%	36%	26%	28%	27%	30%	27%	14%	32%	26%	37%	
net financial income (expenses)	(7)	6	1	(2)	26	197	222	22	225	23	229	27	
% on total revenue		-0.2%	0.2%	0.0%	0.0%	0.6%	3.7%	4.4%	0.5%	3.6%	0.4%	3.0%	
EBT	1,017	1,073	941	1,199	1,274	1,797	1,553	651	2,213	1,381	3,026	1,702	
margin		37%	36%	26%	28%	28%	34%	31%	14%	36%	26%	40%	
taxes	(272)	(29)	(83)	(91)	(163)	(383)	(289)	(139)	(429)	(295)	(603)	(363)	
tax rate		27%	3%	9%	8%	13%	21%	19%	21%	19%	21%	21%	
Net income	745	1,044	857	1,109	1,111	1,414	1,264	512	1,784	1,087	2,423	1,339	
% on total revenue		27%	35%	24%	26%	24%	27%	25%	11%	29%	21%	32%	

Source: Banca Profilo estimates and Company data

Net income margin back to above 20%

The remaining P&L metrics confirm some €200k of yearly dividends from Vitalab, 20% tax rate. Net income is expected to recover from 2024 ending in 2025E basically in line with 2022.

Figure 13: Revenue, EBITDA and margin 2017-2025E



Source: Company data

Balance Sheet:
Capex postponement
Generous dividend
distribution

Regarding the Balance Sheet new estimates we: i) postponed part of 2023 capex to the following two years given little investments made in the first six months (€56k), well below the three-year first semester average (€480k); and ii) further improved Net Working Capital turnover as inventories return to their normalized levels. We kept a generous dividend distribution (some 50% of consolidated net income) for the next three years in line with 2022.

Table 6: Balance Sheet estimates revision 2023-2025

Balance Sheet												
	2017	2018	2019	2020	2021	2022	2023E	2023E	2024E	2024E	2025E	2025E
€/000							old	new	old	new	old	new
tangibles	185	567	1278	1400	1662	1535	1,382	1,177	1,296	1,336	1,212	1,170
intangibles	27	108	706	567	442	204	122	102	38	48	(58)	-56
financials	462	452	452	452	949	982	982	982	982	982	982	982
Fixed assets	675	1,127	2,437	2,419	3,052	2,722	2,486	2,261	2,316	2,366	2,136	2,096
other current net receivables	131	177	452	912	914	227	227	227	227	227	227	227
receivables from grants	1,176	1,062	495	585	755	905	624	687	655	693	688	699
trade receivables	303	630	414	339	806	774	1,085	817	1,339	1,135	1,648	1,295
inventories	263	267	425	570	488	1,157	890	1,007	1,037	983	1,201	944
trade paybles	(161)	(257)	(500)	(188)	(250)	(188)	(171)	(211)	(211)	(179)	(260)	(204)
Net operating Working Capital	1,582	1,702	834	1,306	1,798	2,648	2,428	2,300	2,820	2,632	3,276	2,733
% on total revenue	58%	57%	23%	30%	39%	50%	49%	50%	46%	50%	43%	46%
receivables from grants (% grants)	170%	193%	54%	39%	96%	52%	52%	52%	52%	50%	52%	48%
trade receivables (% revenue)	11%	21%	11%	8%	17%	15%	22%	22%	22%	22%	22%	22%
inventories (% revenue)	10%	9%	12%	13%	11%	22%	18%	22%	17%	19%	16%	16%
trade paybles (% COGS)	24%	32%	42%	13%	19%	11%	11%	11%	11%	11%	11%	11%
Capex	50	536	1,897	383	609	184	350	100	500	750	600	500
tangible	28	447	1,143	342	541	179	315	90	450	675	540	450
intangibles	22	89	754	40	68	5	35	10	50	75	60	50
% on total revenue	2%	18%	52%	9%	13%	3%	7%	2%	8%	14%	8%	8%
Provisions	(629)	(630)	(504)	(522)	(522)	(522)	(632)	(522)	(490)	(632)	(632)	(522)
Invested Capital	1,757	2,375	3,218	4,115	5,241	5,075	4,510	4,266	4,873	4,593	5,007	4,534
shareholders' equity	250	250	327	330	333	333	333	333	333	333	333	333
reserves	720	1,265	5,926	6,742	8,029	8,720	9,468	9,468	10,031	9,739	10,869	10,314
net income	745	1,044	857	1,108	1,111	1,414	1,064	512	1,583	1,087	2,223	1,339
Equity	1,715	2,559	7,110	8,181	9,473	10,467	10,865	10,313	11,947	11,159	13,425	11,986
Net debt (cash)	42	(185)	(3,892)	(4,066)	(4,232)	(5,392)	(6,356)	(6,047)	(7,074)	(6,565)	(8,418)	(7,451)
adj Net debt (cash)	771	464	(3,439)	(3,727)	(4,199)	(3,796)	(6,356)	(6,047)	(7,074)	(6,565)	(8,418)	(7,451)

Source: Banca Profilo estimates and Company data

Net cash €3.4mln in
2023E-2025E

In terms of Free Cash Flows, we reduced cumulated FCFs to €3.4mln from previous €4.4mln in 2023-2025, deriving mostly from lower EBIT.

Table 7: Free Cash Flows estimates revision 2023-2025

Free Cash Flows												
	2017	2018	2019	2020	2021	2022	2023E	2023E	2024E	2024E	2025E	2025E
€/000							old	new	old	new	old	new
EBIT	1,024	1,067	940	1,201	1,249	1,601	1,331	630	1,988	1,358	2,797	1,676
tax (figurative)	(218)	(228)	(200)	(256)	(266)	(341)	(284)	(134)	(424)	(290)	(597)	(357)
D&A	143	73	296	400	487	532	585	560	670	645	780	770
change in Net Working Capital	(219)	(120)	868	(472)	(492)	(850)	220	348	(520)	(332)	(644)	(102)
capex	(50)	(536)	(1,153)	(383)	(609)	(184)	(350)	(100)	(500)	(750)	(600)	(500)
Free Cash Flow	680	256	750	491	369	757	1,502	1,304	1,214	631	1,736	1,487

Source: Banca Profilo estimates and Company data

Main risks to our
estimates

Main downside risk to our estimates remains Arterra's effective capacity to reach a relevant scale in new end-markets. We also see the lack of net cash optimization with persisting cumulating cash and reduced capex.

Valuation

DCF approach well appraises the cash generating business

Given Arterra's cash generating business model, a DCF method well adapts as a valuation approach.

Market multiples approach can also be used

For what concerns the market multiples approach, the listed international research-based companies represent a fitting panel of comparables for suggesting an appropriate relative valuation using market multiples.

DCF

DCF assumptions:

To run a DCF model, we use our projected FCFs for the 2023E-25E explicit period: cumulated FCFs of €3.4mln or €1.1mln as yearly average in 2023E-2025E. (vs our previous €4.4mln and €1.5mln respectively in Company Update in April 2023).

€3.4mln of cumulated FCFs

To assess the Terminal Value, we factor in:

- an annual FCF generation of €1.1mln, corresponding to the average FCF in 2023E-2025E;
- perpetual growth rate of 2% (unchanged).

€1.1mln as Terminal Value cash flow

In order to get to the Equity Valuation, we would consider the reported net cash at the end of June 2023 at €5.5mln (in line with the end of 2022 as in our previous Company Update).

Table 8: DCF valuation

DCF Valuation	2023E	2024E	2025E	over
Free Cash Flows (€/000)	1,304	631	1,487	1,141
years	1	2	3	
discount factor	0.92	0.85	0.78	
NPV Cash flows (€/000)	1,200	534	1,157	
Sum of NPVs (€/000)				2,891
Terminal Value (€/000)				16,994
NPV Terminal Value (€/000)				13,227
Enterprise Value (€/000)				16,117
peripheral assets: Vitalab (@40%)				2,236
Net debt June 2023 (€/000)				-5,486
Equity Value (€/000)				23,839
number of shares (mln)				6.7
Per share value (€)				3.6

Source: Banca Profilo estimates and Company data

Updated WACC at 8.7% according to higher risk-free rate

We adjusted WACC to include updates on the risk-free rate and ended up with 8.7% (vs 8.4%). WACC includes:

- risk free rate at 5.2%, up from previous 4.8%, according to higher 100-day 30-year BTP yield moving average and to our expected path of BCE monetary tightening (+50bps);
- market risk premium at 5.5% (unchanged);
- beta at 0.9, as the average of chosen listed peers to Arterra (unchanged);
- debt to equity target structure with an 80% weight on Equity (unchanged).

Table 1: WACC calculation

WACC Calculation	
perpetual growth rate	2.0%
WACC	8.7%
risk free rate (30Y)	5.2%
equity risk premium	5.5%
beta	0.9
KE	10.3%
cost of debt	3%
tax rate	21%
KD	2%

Source: Banca Profilo estimates and Company data

DCF Equity valuation: We run the DCF model and end up with an Enterprise Value of €16mln (vs previous €22.3mln) and an Equity Value of €23.8mln (vs previous €32.2mln) or €3.6/share (vs previous €4.8). Main difference from our previous Company update derives from: i) lower cumulated FCFs (-23%); ii) lower Terminal Value FCF (-25%); iii) lower 2022 Vitalab revenue (€2.4mln in 2022 down 15% yoy) impacting on the value of the peripheral assets in DCF valuation and iv) higher WACC.

Relative market multiples valuation

EV/SALES and EV/EBITDA used to assess the market multiples valuation of Arterra according to two selected sub-samples To assess a relative valuation of Arterra through the market multiples approach, we divided our panel of comparables in to two set of peers:

- a first sub-sample of Arterra's peers, mostly by business and potential growth, but with negative EBITDA margin, including BRAIN, Evolva, Fermentalg, Plant Advanced Technologies, Codexis and Yield10 Bioscience;
- a second sub-sample of Arterra's peers, mainly by margins and cash flow generation, including Croda, Symrise, Novozymes, Lonza, Ashland, OCI and Wacker Chemie.

Table 9: Sample benchmarking on revenue growth and EBITDA margin

Company	Currency	Market Cap (mln)	Enterprise Value (mln)	Sales growth							EBITDA margin						
				2018	2019	2020	2021	2022	2023E	2024E	2018	2019	2020	2021	2022	2023E	2024E
11/10/2023																	
BRAIN	EUR	92	114	22.6%	24.8%	-0.5%	7.6%	23.2%	12.3%	17.9%	-16.7%	-7.3%	-9.1%	-4.2%	-0.1%	1.2%	6.1%
Croda	GBP	6,345	6,575	1.0%	-0.7%	0.9%	35.9%	10.6%	-16.5%	4.3%	28.5%	28.8%	27.9%	29.0%	28.8%	23.8%	24.2%
Symrise	EUR	12,935	15,213	5.3%	8.0%	3.3%	8.7%	20.7%	3.7%	5.7%	20.0%	20.3%	21.1%	21.3%	20.0%	19.9%	20.6%
Evolva	CHF	18	18	30.9%	32.3%	-36.1%	31.3%	57.1%	-19.1%	111.8%	-260.4%	-103.4%	-222.3%	-240.9%	-92.2%	-99.5%	-7.1%
Fermentalg	EUR	16	11	-46.6%	n.m.	16.3%	155.3%	35.1%	-18.4%	98.4%	-3002.0%	-501.9%	-306.3%	-103.6%	-76.3%	-112.9%	-54.5%
Plant Advanced Technologies	EUR	11	16	37.5%	9.1%	4.7%	83.1%	0.0%	30.4%	66.7%	-218.2%	-91.7%	-47.8%	-37.0%	-34.8%	-36.7%	22.0%
Novozymes	DKK	66,268	72,156	-1.0%	-0.1%	-2.5%	6.7%	17.4%	1.7%	5.1%	35.8%	-36.7%	35.1%	36.3%	34.6%	32.9%	34.3%
Codexis	USD	144	71	21.1%	13.0%	0.9%	51.7%	32.3%	-54.5%	-6.2%	-3.8%	-10.8%	-31.8%	-18.6%	-13.3%	-88.8%	-62.9%
Yield10 Bioscience	USD	5	5	-38.2%	45.0%	-0.9%	-23.2%	-26.7%	-36.7%	742.1%	-1508.0%	-1026.8%	-1175.5%	-1811.6%	-2930.7%	-5131.2%	-600.6%
Lonza Group	CH	32,185	32,261	8.6%	6.8%	4.5%	-12.5%	14.6%	2.8%	11.2%	27.3%	26.8%	22.7%	30.8%	32.2%	28.7%	30.6%
Ashland	USA	4,020	4,727	1.4%	-28.4%	-4.6%	1.7%	-1.6%	-5.0%	5.5%	18.8%	21.6%	22.2%	21.8%	24.2%	23.0%	23.9%
OCI NV	NL	5,549	8,798	56.3%	-2.6%	1.8%	95.2%	64.0%	-41.7%	6.4%	28.6%	22.8%	24.0%	40.1%	40.1%	27.4%	32.2%
Wacker Chemie AG	DE	6,610	7,333	1.2%	-1.0%	-4.8%	32.3%	32.2%	-20.0%	1.6%	18.7%	15.8%	14.2%	24.8%	25.3%	19.6%	16.1%
Median best peers				21.9%	24.8%	0.2%	41.5%	27.7%	-18.7%	82.5%	27.3%	22.8%	22.7%	29.0%	28.8%	23.8%	24.2%
Arterra	ITA	11.3	7.7	8.4%	21.8%	18.8%	7.0%	15.1%	-13.0%	13.3%	38.3%	34.1%	37.2%	37.7%	40.2%	25.8%	38.3%

Source: Banca Profilo estimates and elaborations on Factset

EV/SALES: 2.4x
EV/EBITDA: 10.8x

Consistently with our sample split up, we use EV/SALES 2023E at 2.4x, below our previous 3.8x of the first sub-sample and EV/EBITDA 2024E at 10.8x lower than our previous research at 13.1x [Company Update on April, the 20th 2023]. Arterra trades 20% below the first sub-sample mean and more than 55% on the second sub-sample, despite its historically higher EBITDA confirmed as the highest EBITDA margin in 2022.

Table 10: Market multiples

Company	EV / Sales		EV / EBITDA	
	2023E	2024E	2023E	2024E
11/10/2023				
BRAIN	2.0x	1.7x	n.m.	27.7x
Croda	3.8x	3.6x	15.8x	14.9x
Symrise	3.2x	3.0x	16.0x	14.6x
Evolva	1.5x	0.7x	n.m.	n.m.
Fermentalg	1.7x	0.9x	n.m.	n.m.
Plant Advanced Technologies	5.5x	3.3x	n.m.	n.m.
Novozymes	4.0x	3.8x	12.3x	11.2x
Codexis	1.1x	1.2x	n.m.	n.m.
Yield10 Bioscience	16.5x	2.0x	n.m.	n.m.
Lonza Group			17.7x	14.9x
Ashland			9.3x	8.4x
OCI NV			6.1x	4.8x
Wacker Chemie AG			8.2x	6.8x
Mean best peers	2.4x	1.5x	12.2x	10.8x
Arterra	1.7x	1.5x	6.5x	3.8x
<i>premium (discount) on best peers</i>	<i>-29%</i>	<i>-5%</i>	<i>-47%</i>	<i>-64%</i>

Source: Banca Profilo estimates and elaborations on Factset

Market multiples significant derating in the past two months

Over the past year, our Sample's market multiples have been basically stable in terms of EV/EBITDA 1Y-forward. However, since the beginning of August there has been a significant de-rating (from almost 14x to less than 12.5x in only two months).

Figure 14: Sample market multiples evolution (one year analysis)



Source: Banca Profilo elaborations, Bloomberg

EV/SALES and EV/EBITDA used to assess the market multiples valuation of Arterra according to two selected sub-samples

Market multiples valuation includes a 15% liquidity discount and an Equity valuation of Vitalab (at 40% stake) on the same mean EV/SALES 2.4x on its sales 2022, leading to a value of €2.2mIn (vs previous €4.5).

We end up with an Equity Value of €18mIn (vs previous €27.2mIn)

Table 11: Market multiples valuation

Valuation on market multiples (€ / 000)					
Arterra on EV/SALES (business + growth)	2023E	2024E	Arterra on EV/EBITDA (margins + cash flow generation)	2023E	2024E
EV/Sales best peers	2.4x	1.5x	EV/EBITDA best peers	12.2x	10.8x
sales	4,613	5,225	EBITDA	1,190	2,003
net debt June 2023	-5,486				
EV	10,863	8,082	EV	14,486	21,674
Equity	16,349	8,082	Equity	19,972	21,674
Vitalab (@ 40%) on EV/SALES	2023				
EV/Sales	2.4x				
sales 2022	2,374				
net debt (adj)					
EV	5,590				
Equity	5,590				
(40% stake)	2,236				
Arterra (including Vitalab @40%)	2023E	Arterra (including Vitalab @40%)	2023E		
liquidity discount	15%		15%		
	15,797		20,324		
Average 2022E EV/SALES - EV/EBITDA					
18.060					

Source: Banca Profilo estimates, Factset

Valuation:

BUY confirmed

12-month TP reduced to €3.2/share

We reduced our target price consistently with the reduction of main DCF assumptions and lower market multiples, to €3.2/share as the average between DCF and market multiples valuation.

Given the relevant potential upside on Arterra's price (€1.7 on October the 11th), we confirm our BUY recommendation.

APPENDIX

Biotech serving the irreversible trend of product sustainability

Arterra: know-how in biological science to develop active innovative and green compounds

Arterra Bioscience is an Italian, innovative SME, research-based biotech company with a strong know-how in biological science and an extensive experience in screening for the discovery of new active compounds with potential multiple industrial applications, such in Cosmetics, Nutraceutical, Agriculture and Agri-food. By studying signal transduction mechanisms in plants, animals and human cells, Arterra uses its technological platforms to verify the existence of molecular activity in various type of natural resources, which might have simultaneous industrial applications.

Figure 15: Biotech sources of research and fields of application



Source: Company Data

Arterra: strong know-how and experience for simplifying needs of many industries in the persisting search for clean substitutes to chemicals

Arterra’s research activity is focused on the so-called Green Biotech (from plants and agricultural processes to innovative active ingredients) and White Biotech (from raw materials to valuable compounds). Other Biotech source of research are: the sea and its organism (Blue Biotech) and genetics (Red Biotech). Arterra also uses algae and microalgae in the Blue Biotech, whereas from Red Biotech it acquires data on genetics and drug discovery and uses them for potential innovation and discovery addressable to other needing sectors. Arterra’s main areas of activity are: technological screening platforms; plants and cellular farming to brew or modify in order to obtain rich molecules; process innovation mostly in the extraction phases.

Arterra’s bio factories and biomass production have applications in various fields simultaneously: the Company’s core and current end market is Cosmetics, whereas new and potential sectors are Nutraceuticals, functional food and Agri-food processing

Arterra: ready to serve the most active sectors in the global trend to sustainability.

The global industry is in an irreversible trend of finding ways to sustainable products and processes. Arterra is ready to serve the most active sectors in this global trend, through both its innovative technologies and its range of bio-sustainable active ingredients that can be applied not only to various end-markets but also to different segments in the same sector (from mass green to prestige luxury products, mostly in Skincare).

Ongoing research projects on rich

<p>biomolecules for application in:</p> <p>Medical Devices</p> <p>Nutraceutical</p> <p>Agriculture</p> <p>Agri-food</p>	<p>The most active market is Cosmetics, Arterra's core end-market, followed by Pharmaceutical, Nutraceutical, Agriculture and Agri-food.</p> <p>The Pharmaceutical industry is investing in new applications using natural ingredients which are easier to be absorbed by the organism. Arterra has several ongoing research projects to find ways to add natural ingredients in the recipes of different Medical Devices (as any product that acts physically and mechanically, not biologically), mostly treatments addressed to the gastrointestinal, respiratory, and nervous systems.</p> <p>The Nutraceutical industry is experiencing a growing demand of food supplements to add to one's diet, when lacking some key nutrients. Arterra is developing methods to enhance quality and concentration of natural ingredients to be added to food supplements based on solid research, effective screening, and robust tests.</p> <p>Agriculture is gradually shifting towards sustainability as consumers are increasing their attention towards organic food and key players are introducing sustainable techniques for producing and protecting crops in place of chemical pesticides and fertilizers. Arterra is developing tools to enhance the use of bio solutions for pest control, for protecting the plants from climate stress, for quality improvement.</p> <p>In the Agri-food industry there is a strong and increasing interest for natural food preservatives and additives as consumers' attention on both the production and conservation of food has been significantly increasing. Main players have begun investing in biological molecules that can act as natural preservatives or colouring. Arterra is working on various active ingredients acting as antioxidant to be used for natural preservation of fresh food.</p>
<p>Arterra's core end-market: Cosmetics</p>	<p>Cosmetics is Arterra's core end-market, reached both through a partnership agreement with Intercos, which buys Arterra's active compounds and put them into its formulas, (mostly sold to make-up and skincare global brands of various positioning, from mass, to private label to prestige brands), and an equity co-participation in the joint venture Vitalab (25% Arterra and 75% Intercos), which distributes Arterra's active ingredients mostly to skincare multinational global and luxury global brands. In 2022, the turnover coming from Cosmetics (skincare) was 60% of revenue, the remaining coming from Research contracts and other Services.</p>
<p>High productivity and quick time to market of the active compounds in skincare</p>	<p>The productivity of the active compounds used in Skincare is particularly high: 1kg of active compound produces from 200kg (in the suggested formulas) to 1000kg of final product (if used for mass market/marketing purposes). The time to market in Cosmetics is shorter than in other end markets: from 3 to 6 new active ingredients have been released every year, which compares to 3 to 5 years in Agriculture, as an example.</p>

Arterra : overview and business model

History, overview and activities

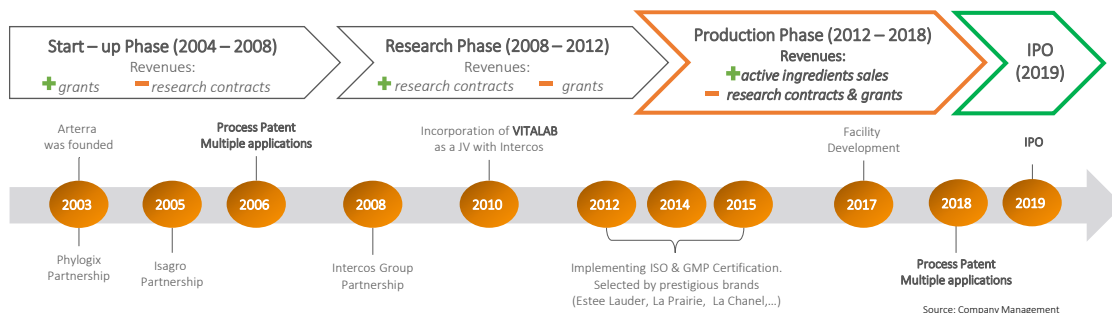
<p>Founded in 2004 by Gabriella Colucci in Naples, as a spin-off of Arena Pharma Biology division (San Diego, USA). A key partner for bio innovation to various end-markets</p>	<p>Arterra Bioscience was founded in 2004 in Naples by Gabriella Colucci, an Italian Scientist who returned to Italy after more than four years as Senior Research Scientist at Arena Pharmaceuticals (a listed company on NASDAQ), leading the Plant Biology Team. Arterra is a spin-off of Arena Pharmaceuticals from which it took the biotechnology developed by Ms. Colucci during the years spent in the US Company. Arterra has started bio research for industrial applications more than 15 years ago, anticipating an urgent need, a mandatory and irreversible global trend today. Other than being Ms. Colucci native city, Naples has been chosen as Arterra's headquarter for: i) its competitive R&D costs (including labour, leasing, transportation, and utilities); ii) being in the South and thus having an easier access to substantial support by the EU funds for Bioscience research; iii) the local presence of accredited universities and Research Centers from which highly qualified scientists come out.</p>
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From a small research group to a profitable biotech company

At the beginning of its activity, in 2004, Arterra’s main sources of revenue were the research grants from public institutions (Regione Campania, MISE, MIUR and the European Union). In 2005, Isagro invested a 22% stake in Arterra and became financing the bio research for innovation in Agriculture. Arterra’s first patent was in this field, but immediately the Company discovered its perfect fit and application to Cosmetics. In 2007, research grants contributed for about 55% and research contracts for less than 20% of total revenue. Starting from 2008, both the agreement with Intercos for developing new active compounds for skincare and the setting up of the joint venture, Vitalab, for the distribution to clients different from Intercos’, marked the shifting of revenue from mainly public research grants to research contracts.

In 2022, turnover for the selling of active compounds contributed for almost 60% of Total Revenue, that for research contracts weighed 11% and public grants 33%. Starting from 2017, the bio facility was extended and further developed and Arterra started the production of new active bio ingredients for different end-markets, thanks to a new process patent with multiple industrial applications. Starting from the second half of 2019, a first round of significant investments, using IPO proceeds, have been made for doubling production capacity and optimizing production processes. Moreover, the organizational structure has been strengthened appointing: an R&D coordinator (V. Fogliano), a Chief Operating Officer (G. Ferrante), a Grant & IP Director (M. Bimonte), a Cell & Molecular Biology Director (A.Tito) and a business developer (B. Cicatiello).

Figure 16: from a research group to a profitable biotech company



Source: Company Data

Research and technology to get active ingredients from food and agriculture waste. Plant extraction and Agri-food by-products in-house. From 1kg of raw materials to >5kgs of active ingredients and up to 1000kgs of skincare finished goods

Supported by an excellent research and tech team (most of them hold a Phd in Biology, Biotech, LifeScience or Genetics) and by the long experience and endless passion of Gabriella Colucci, Arterra uses cells from plants or algae as bio-factories to extract and produce, through sustainable procedures, active and valuable molecules (Plants Extraction production process). Typically, from 1kg of raw materials the transformation process can obtain more than 5kgs of finished product. Moreover, Arterra uses waste from food and agriculture to search for and develop new active ingredients (Agri-food by-products production process). The Agri-food by-products in-house transformation and production process to get to active compounds from food and agriculture waste includes: Agri-food-by-products, washing and freezing phases, extraction, lyophilization, and dissolution in glycerol. Typically, from 1kg of raw materials the upcycling transformation process can obtain about 10kgs of finished product (creating value from food waste, much more than simply recycling food waste). Furthermore, depending on the quantity of active compounds used in the products formulas (skincare products, in Cosmetics, for example), 1kg of active compounds can lead to 200kgs (luxury, prestige skincare product) up to 1000kgs of finished goods (mass market, marketing-based skincare product).

Profitability and production capacity are main reasons to choose between

To summarize, Arterra’s revenue come from different sources: research grants, research contracts, product selling and licencing royalties.

product Production or IP Licencing Active compounds might be either produced and sold or their related in-house Intellectual Property (IP) might be licenced out. The decision depends on end-market applications. Typically, Cosmetics is a high-tech industry, made of small volumes, but very high margins; thus, it can be well served with Arterra’s ingredients. Opposite, Agriculture is typically made of large volumes, low margins, and a very long time to market; it can be well served by Arterra’s Ips licencing.

Moreover, in terms of time to market, in Cosmetics this is much quicker than in any other industry: 3 to 6 new active compounds are introduced every year in Cosmetics, whereas in Agriculture the time for a new active ingredient to land on the market can range from 3 to 5 years.

Figure 17: Arterra’s reach of global brands in Cosmetics



Source: Banca Profilo on Company data

Key partnerships: Isagro and Intercos

In Agriculture, Arterra has been selected by Isagro, that in 2005, invested directly a 22% stake, which went down to 16.5% after the IPO. Isagro has become the right channel for the licencing of Arterra’s patented technology in Agrochemical. However, so far, no significant bio-solutions have been applied to Agriculture. In 2020 Isagro was acquired by Gowan, a worldwide provider of agricultural products and in April 2022 Isagro disposed the whole stake increasing Arterra floating shares.

In Cosmetics, Arterra has been selected by Intercos as its research partner and preferred supplier of innovative active ingredients to be applied especially in skincare. According to their agreement, Arterra has a research contract with Vitalab worth more than €500k to develop three active ingredients every year; in the first year Intercos has the exclusive right to use the active ingredient in its products; starting from the second year the active compound is commercialized through Vitalab. Intercos owns an 8.7% of Arterra.

The distribution in Cosmetics is demanded to Intercos and Vitalab.

Clients range from multinational to SME, from mass to prestige skincare or make up brands

Intercos and Arterra founded the commercial joint venture, Vitalab, with the purpose to distribute Arterra’s active compounds into the global cosmetic market. Arterra owns 25% of Vitalab with a call option up to 40%, whereas Intercos owns the remaining 75%. According to their agreement, Arterra’s ingredients for Cosmetics products are sold through either Intercos or Vitalab, which interact directly with global brands. Thanks to this agreement, Arterra can reach multinational global and prestige brands, make-up and skincare brands having a mass to private labelled to luxury positioning thanks to multiple and democratic applications of Arterra’s valuable molecules. In 2019, Arterra core Cosmetics end-market weighted 60% of total turnover and Intercos’ contribution was over 80%. Vitalab significantly increased its contribution from €1.3mln in 2019 to almost €3mln in 2021.

Figure 18: Arterra with Intercos and Vitalab in Cosmetics



Source: Company data

A scalable and profitable business model

Biomass production is a replicable and a low cost process allowing outstanding yields

Arterra’s business model is scalable: R&D activity is for either production and sales of active ingredients (through Intercos and Vitalab) or for licensing to third parties in-house developed Intellectual Property (IP) to be applied simultaneously to different end markets and positioning (cross sector, cross technology and from mass to luxury products). Applications vary from the anti-age compounds in Cosmetics, to natural pesticides in Agriculture to natural preservatives in fresh Aood to a bio gastrointestinal defender in Medical Devices. The business model is profitable as biomass production to get innovative active ingredients is a very low-cost process. Bio-factories allow for outstanding yields with relatively limited expenses and investments. Typically, from 1kg of plant stem cells, Arterra’s bio farms produce more than 5kgs of active compound, via cells reproduction, that can be sold in a range of 4x to 10x the cost of raw materials. In the same way, from 1kg of Agri-food by-products Arterra’s bio farms can typically develop about 10kgs of active ingredients that can be sold between 20x and 50x the cost of raw materials.

Figure 19: Profitable and scalable business model



Source: Company Data

In addition, the distribution phase of the value chain and the reach of global brands, mainly in Cosmetics, is set on a win-win partnership with Intercos and through an equity participation (together with Intercos) in the commercial joint venture Vitalab.

No investment in sales force is made with the focus on research and tech scientists.

Shareholders, Board of Directors and managers: long experience and sounded know-how

Listed in 2019 at €2.6 The Company was listed on the Euronext Growth segment of the Italian Stock Exchange on October the 28th 2019 at €2.6/share. The share capital is represented by 6.6mln shares.

€6.6mln shares The Company is owned by:

- executive shareholders, the founder Gabriella Colucci with 27.9%,
- industrial shareholders, Isagro sold its 16.5% stake in April 2022, but it remained co-owner in ADL (Arterra with 6.81%; G.Basile with 34.63%), Intercos with 8.7%, partner in Cosmetics and co-owner in Vitalab;
- other shareholders, Gabriella Colucci’s brother Paolo Colucci with 7.5%;
- Zeus Capital with 5%;

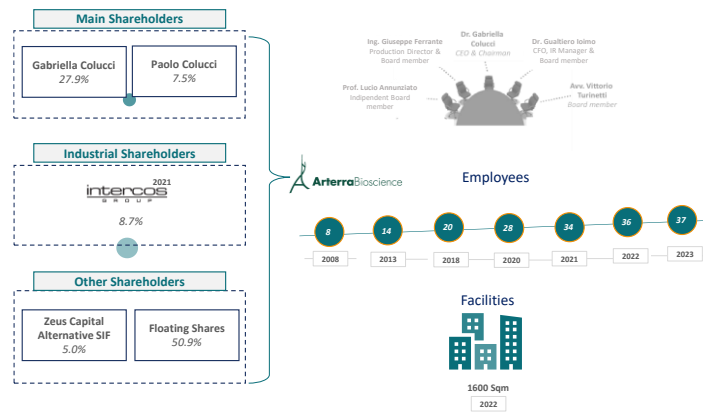
Floating shares are then 50.9% of the total.

Gabriella Colucci: Founder, Chairman Arterra’s founder, Gabriella Colucci built more than 30 years of Academic research experience in Italy, Nigeria, USA and Australia. She is the author of more than 40 scientific publications and 18 patents. She worked for more than 4 years in San Diego as Senior Research Scientist

and CEO
 A rare mastermind
 leaving US and
 returning to Italy

at Arena Pharmaceuticals, leading the Plant Biology group. In 2003, she left San Diego and returned to its native Naples, where she founded Arterra Bioscience, as a spin-off of Arena Pharmaceuticals. She won the Marisa Bellisario Prize, the EU Prize for Women Innovations in 2018 and the Rising Star in Cosmetics Global in 2019.

Figure 20: Arterra shareholders and BoD



Source: Company Data

The Board of
 Directors

Gabriella Colucci (founder, Chair and CEO), Gualtiero Ioimo (CFO, IR Manager) and Giuseppe Ferrante (Production Director) sit in the Board of Directors of Arterra which also includes the lawyer Vittorio Turinetti and Prof. Lucio Annunziato, as independent board members.

Key partnerships:
 Isagro, Intercos and
 Vitalab

In 2005, Isagro acquired a 22% of Arterra to partner for research-based bio innovation in Agriculture. In 2008, Arterra signed an agreement with Intercos and became its biotech research arm in Cosmetics. Arterra develops 3 active compounds every year in either Skincare or Make up. The active ingredients are bought by Intercos that has the exclusive use for the first year; thereafter, the same ingredients are distributed globally through the joint venture Vitalab (25% owned by Arterra - with an option to go up to 40% and with the right to receive 40% of Vitalab's distributed income - and the remaining by Intercos). In 2019, through the IPO process, Intercos became a shareholder in Arterra.

ESG analysis

Sustainability report

ESG and the Sustainability of Competitive Advantage

Every active investor seeking value should be aware of how companies deal with environment, social and governance issues, since these are factors that can improve corporate value. In a world where companies are increasingly facing environmental issues, such as climate change and pollution, as well as social factors such as diversity and inclusion, gender balance and product safety, attention to ESG issues has become a competitive advantage.

Arterra: second Sustainability Report in 2021

To best involve stakeholders and to communicate in an increasingly transparent way its ESG goals, Arterra published its Sustainability Report in 2021 in accordance with both GRI and SDGs standards.

Sustainability for Arterra

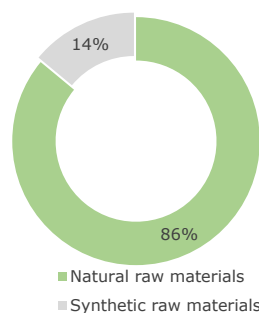
Arterra, a biological and molecular R&D company applied to cells of natural origin

Beyond sustainability standards and goals, Arterra naturally generates positive externalities with its core activities. In fact, the Company operates in the Research and Development of biological molecules to extract innovative active ingredients mainly for Cosmetics, but with potential applications in Agriculture, Nutraceuticals and Pharmaceutical. Arterra has always focused on green biotechnologies as a tool for sustainable innovation and a potential boost to the circular economy. The Company develops sustainable products, such as active ingredients from plant-based raw material and uses certified sustainable production processes.

Arterra is leader in the biological and molecular research on plant-based raw materials

Arterra's main production process consists of the processing of raw materials in liquid culture, a process free of any type of microbiological contaminant or environmental pollutant. Raw materials are on average 86% natural, the remaining being synthetic. To increase the incidence of natural raw materials and seek constant innovation, Arterra has recently launched a project in collaboration with Montecarlo Fruit, a supplier of quality fruit and vegetables on a global scale, for producing active ingredients from fruit waste.

Figure 21: Raw materials breakdown between natural and synthetic ones



Source: Banca Profilo on Company data

Materiality assessment

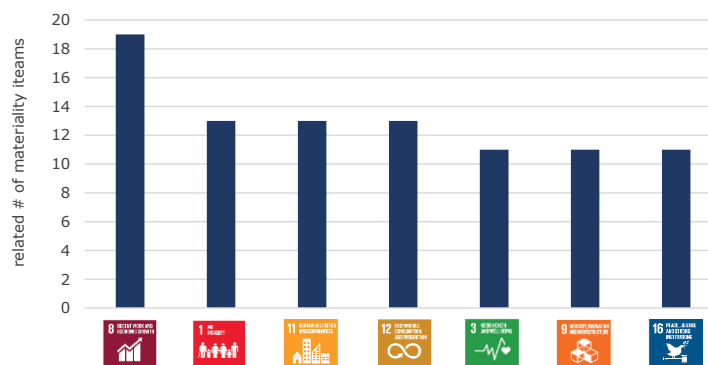
Arterra carried out a Materiality Assessment to identify priority sustainability disclosure items, set most relevant issues for the Company and its stakeholders, and finally to decide which issues should be included (and updated) in the Report.

SDGs vs corporate goals: n. 8, 1, 11, and 12 are those Arterra is more sensitive to

By relating the material topics identified through the Materiality Map to the seventeen Sustainable Development Goals (SDGs), it emerges that SDGs 8, 1, 11, and 12 are the most sensitive ones for Arterra.

- Goal 8 promotes inclusive and sustainable economic growth as well as decent work for all. This goal is particularly sensitive for the Company as Arterra guarantees higher levels of economic productivity mainly through technological upgrading and R&D, promotes development-oriented policies that support productive activities, decent job creation, creativity, and innovation. Moreover, Arterra particularly cares to progressively improve global resource efficiency in production and responsibly select suppliers.
- Goal 1 promotes to end poverty in all its forms everywhere. Arterra promotes this goal mainly by implementing appropriate social protection systems and granting equal rights to economic resources.
- Goal 11 makes cities and human settlements inclusive, safe, resilient, and sustainable. Arterra promotes this goal mainly thanks to the strong connection with the Neapolitan and Campania territory, from which Arterra obtains natural raw materials used in its processes. Arterra is also promoter of Est(ra)Moenia, an association aimed at implementing projects that enhance the Naples surrounding areas and East Naples.
- Goal 12 ensures sustainable consumption and production patterns. Arterra promotes this goal by achieving the sustainable management and efficient use of natural resources and the sound management of chemicals and all wastes throughout their life cycle.

Figure 22: Raw materials breakdown between natural and synthetic ones



Source: Banca Profilo on Company data



Arterra "ID Card"

Recommendation

BUY

Target Price

3.2 €

Upside

85%

Company Overview

Arterra Bioscience is an Italian research-based biotech company with a strong know-how in biological science and an extensive experience in screening for the discovery of new active compounds able to have various potential industrial applications in multiple end markets, such as cosmetics, nutraceutical, agriculture and agrifood. By studying signal transduction mechanisms in plants, animals and human cells, Arterra uses its technological platforms to verify the existence of molecular activity in various type of natural resources (from plants, to microalgae to food waste), which might have simultaneous industrial applications. Arterra, thus, represents an ideal partner to cross-sector companies who have not the financial or cultural strength to develop innovative technologies and bio-sustainable products, mainly in cosmetics (skin care and make up), food (supplements, functional food, natural preservatives), medical devices (acting on stomach, skin, brain, breathing and vascular systems), and agriculture (crop protection and yield enhancement). Since its foundation in 2004 Arterra has been showing strong revenue growth (>20%) and robust EBITDA, in a competitive scenario of international players with negative marginality.

SWOT Analysis

Strengths

- Outstanding R&D and high qualified Technology team
- A global market reach with limited sales force investments thanks to the partnership with Intercos and the equity participation in Vitalab
- Scalable business model as products and in house developed Ips can be applied simultaneously to different end-markets
- Profitable business model since its set up for a very low cost of raw materials and an effective and light organizational structure

Opportunities

- Bioscience great momentum as product sustainability has become the key mission of many industries
- Significant growth potential and resilience of Arterra's main end-market, the cosmetic industry

Weaknesses

- Small size of the business
- End-markets concentration
- Non-optimized financial structure

Threats

- Effective end-markets diversification within the planned time frame
- Potential difficulty in maintaining the independence from global multinational brands

Main catalysts

- 👍 Profitability improvement driven by the scaling up of production
- Significant growth fuelled by the needed bio innovation across industries
- Growing demand for functional make-up and Haircare

Main risks

- 👎 Effective end-market diversification within the business plan time frame
- Becoming dependent on global multinational brands
- China's path of recovery

Arterra "ID Card"

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Recommendation

BUY

Target Price

3.2 €

Upside

85%

Main Financials						
(€/000)	2020	2021	2022	2023E	2024E	2025E
Total revenue	4,308	4,608	5,303	4,613	5,225	5,966
yoy change	18.8%	7.0%	15.1%	-13.0%	13.3%	14.2%
EBITDA	1,602	1,735	2,133	1,190	2,003	2,446
EBITDA margin (%)	37.2%	37.7%	40.2%	25.8%	38.3%	41.0%
EBIT	1,201	1,248	1,601	630	1,358	1,675
EBIT margin (%)	27.9%	27.1%	30.2%	13.6%	26.0%	28.1%
Net income	1,108	1,111	1,414	512	1,087	1,339
Margin (%)	25.7%	24.1%	26.7%	11.1%	20.8%	22.4%
Adjusted net debt (cash)	(4,067)	(4,199)	(5,502)	(6,243)	(6,651)	(7,647)
Shareholders Equity	8,181	9,473	10,467	10,313	11,159	11,986
Net Operating Working Capital	1,306	1,798	2,648	2,300	2,632	2,733
Capex and acquisitions	383	609	184	100	750	500
Free Cash Flow	491	369	757	1,304	631	1,487

Company Description	
Company Sector	Health Care - Biotech
Price (€)	1.7
Number of shares (mln)	6.7
Market Cap (€ mln)	11.3
Reference Index	Euronext Growth
Main Shareholders	Gabriella Colucci, Intercos
Main Shareholder stake	27.9%
Free Float	49.5%
Daily Average Volumes	15,977
Sample of comparables	BRAIN, Croda, Symrise, Deinove, Evolva, Fermentalg, Plant Advanced Technologies, Novozymes, Codexis

Breakdown by business unit						
(% of total sales)	2020	2021	2022	2023E	2024E	2025E
Cosmetic turnover	53%	71%	56%	58%	61%	65%
Nutraceutical/medical devices turnover	0%	0%	0%	0%	0%	0%
Research contracts and services	13%	12%	11%	13%	14%	14%
Licences and royalties	0%	0%	0%	0%	0%	0%
Research grants	35%	17%	33%	33%	29%	30%
Total revenue	100.0%	100.0%	100.0%	104.2%	103.7%	108.9%

Data of peers					
	2019	2020	2021	2022	2023E
Revenue Growth (yoy)	25%	0.2%	42%	28%	-1.9%
Arterra	22%	19%	7%	15%	-13%
EBITDA Margin	23%	23%	29%	29%	24%
Arterra	34%	37%	38%	40%	26%

Average data

Solvability Ratios					
	2020	2021	2022	2023E	2024E
Net debt (cash) / EBITDA	-2.5x	-2.4x	-2.6x	-5.2x	-3.3x
Net debt (cash) / Equity	-0.5x	-0.4x	-0.5x	-0.6x	-0.6x

Multiples of peers			
	2023E	2024E	
Best peers (business and potential growth)			
EV / SALES	2.4x	1.5x	
Arterra	1.7x	1.5x	
Best peers (margins and cash flows)			
EV / EBITDA	12.2x	10.8x	
Arterra	6.5x	3.8x	

Financial and Operative ratios					
	2020	2021	2022	2023E	2024E
Tax rate	-8%	-13%	-21%	-21%	-21%
ROIC	29%	24%	32%	15%	30%
ROE	14%	12%	14%	5%	10%
Capex/Sales	9%	13%	3%	2%	14%
D&A to capex	105%	80%	290%	560%	86%

Source: Factset, Banca Profilo estimates and elaborations, Company Data, Factset

Disclaimer

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ADDITIONAL INFORMATION

THE BANK PROVIDES ALL OTHER ADDITIONAL INFORMATION, ACCORDING TO ARTICLE 114, PARAGRAPH 8 OF LEGISLATIVE DECREE 58/98 ("FINANCIAL DECREE") AND COMMISSION DELEGATED REGULATION (EU) 2016/958 AS OF 9 MARCH 2016 (THE "COMMISSION REGULATION") ON THE RELEVANT SECTION OF ITS WEBSITE (WWW.BANCAPROFILO.IT, IN THE SECTION "CLIENTI AZIENDALI E ISTITUZIONALI/ANALISI E RICERCA).