EDISON

ADL Bionatur Solutions

Value-added biotech manufacturing

Initiation of coverage

Pharma & biotech

10 December 2018

ADL Bionatur Solutions (ADL-BS) was formed through the reverse takeover in April 2018 of contract manufacturing (CMO) and active pharmaceutical ingredient (API) producing firm ADL Biopharma (ADL) and Bionaturis (BNT), a developer of differentiated veterinary biotech products. We estimate the ADL unit's solid pipeline of existing CMO contracts will contribute to the unit's generation of at least €55m in 2019 revenue (vs €12m in 2017). We determine an EV valuation of €138.8m, which translates to an equity valuation of €93.4m, or €2.37 per share, after removing €45.4m in Q418e net debt (including a €7.0m loan from its majority shareholder).

Year end	Revenue (€m)	PBT* (€m)	EPS* (€)	DPS (€)	P/E (x)	Yield (%)
12/17	14.6	(13.7)	(0.64)	0.0	N/A	N/A
12/18e	27.8	(13.3)	(0.35)	0.0	N/A	N/A
12/19e	64.8	1.2	0.03	0.0	56.7	N/A
12/20e	75.5	5.0	0.13	0.0	13.1	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

ADL has growing pipeline of CMO production

ADL will have 2,400m^3 of total fermentation capacity available by mid-2019. While this operated at c 40% utilisation in H118, given recent contract wins and the ramping up in 2019 of its largest contract (a six-year €146m flucosil-lactose deal), ADL-BS expects to have 85% of capacity in use by year end 2019. This should drive it to firmly positive company-wide EBITDA and profitability in 2019. We forecast sales of the ADL division of €57.1m in 2019.

Bionaturis adds product development portfolio

The ADL-BNT combination provided a public listing for ADL and may offer longer-term synergies, as ADL's infrastructure and cash flows could help support future BNT product development and manufacturing. Bionaturis (BNT) has R&D and product development capacity, having developed products in animal health, and also offers contract research services using a zebrafish model. Several new products are being launched in the next two years, which we expect will enable BNT to record €7.7m in 2019 sales (vs €2.4m in 2017).

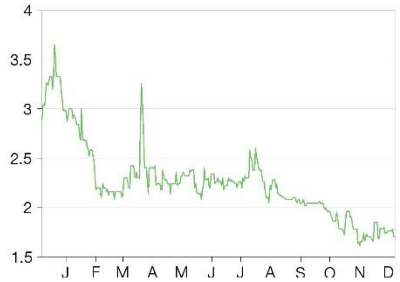
Valuation: EV of €138.8m

ADL-BS reported H118 net debt of €41.2m (€44.3m gross debt offset by €3.1m in cash and short- and long-term financial investments). The firm has raised €5m in debt and €12m in equity since mid-2018, and we estimate year-end 2018 net debt of approximately €45.4m (including a €7.0m loan from its majority shareholder). Further capital raises may not be absolutely required for the firm to attain consistent profitability, but ADL-BS may seek modest funding to further modernise some of its facilities. Our model assumes the company will raise an additional €5m in debt in 2019. We apply a net present value (NPV) approach and, using a 10.0% cost of capital, obtain an enterprise value (EV) of €138.8m. After removing €45.4m in Q418e net debt, we determine an equity valuation of €93.4m, or €2.37 per share.

Price	**€1.70**
Market cap	**€67m**

Net debt (€m) at Q418e	45.4
Shares in issue	39.4m
Free float	22%
Code	BNT
Primary exchange	MAB (Spain)
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	0.0	(16.7)	(41.2)
Rel (local)	4.0	(13.3)	(31.5)
52-week high/low		€3.65	€1.61

Business description

Based in Spain, ADL Bionatur Solutions provides contract manufacturing of fermentation-based biochem products and β-lactam antibiotics, and develops and licenses its own portfolio of OTC and prescription animal health products, including probiotics and vaccines.

Next events

FY18 results	March 2019
All eight 225m^3 fermenters are active or ready for production	H119

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Edison profile page

ADL Bionatur Solutions is a research client of Edison Investment Research Limited

Investment summary

Company description: Growth-oriented biotech manufacturer

Based in Spain, ADL-BS was formed through an inverse acquisition (in April 2018) of ADL, a firm focused on CMO of pharmaceutical and biotechnology products and API manufacturing, and BNT, a listed company developing differentiated biotech products for the veterinary sector with €2.4m in 2017 revenue. ADL was formed through the acquisition by Black Toro Capital (BTC) in 2014 of the productive assets of the then-bankrupt Spanish pharmaceutical firm, Antibióticos SAU. Under BTC's direction, ADL resumed operations in 2015 and diversified its revenue base towards higher-margin CMO contracts, recording €12.2m in 2017 sales. The ADL-BNT combination provided a public listing for ADL and may offer longer-term synergies, as ADL's infrastructure and cash flows could help support future BNT product development and manufacturing. ADL-BS also has an increasing pipeline of business, as CMO capacity utilisation could rise from c 40% in H118 to about 85% by year-end 2019, based mostly on contracts that have already been secured. In our view, this would represent over €55m in 2019 revenue for the ADL division alone, and of which we estimate that over €42m has been contractually committed.

Valuation: EV of €138.8m

We value ADL Bionatur Solutions using a discounted cash flow approach, with a 10.0% cost of capital, as per our usual policy for operating healthcare firms with ongoing revenue. Using this rate across three periods (our explicit forecasts through 2028, a 3% intermediate growth period from 2029-35 and 1% terminal growth thereafter), we obtain an EV of €138.8m. After removing €45.4m in Q418e net debt, we determine an equity valuation of €93.4m, or €2.37 per share.

Financials: Well-funded, with debt ratios to improve

ADL-BS reported H118 results with €41.2m in net debt (€44.3m gross debt offset by €3.1m in cash and financial investments). The firm raised €5m in debt and €12m in equity since mid-2018, and we estimate FY18 net debt of about €45.4m (including a €7.0m loan from BTC). Further capital raises may not be absolutely required for the firm to attain consistent profitability, but ADL-BS may seek modest funding to further modernise some of its facilities. Our model assumes the firm will raise an additional €5m in debt in 2019. We estimate the firm's adjusted net debt/EBITDA ratio (which excludes the BTC debt) will improve from 7.5x in 2019 to 3.8x in 2020. Over 90% of the firm's debt is due after 2021. We estimate that 50-55% of its debt is from government sources, with a €15.6m long-term loan (at 2.3% pa rate) from the Spanish Industry Ministry being its single largest liability.

Sensitivities: Operating and customer concentration risks

As in any manufacturing operation, there are risks (eg contamination, biohazard, personnel, etc) that exist and must be well-managed to ensure continuous and predictable production. The firm must also complete the relevant facility upgrades and technology-transfer activities in the timelines promised to customers to meet revenue goals and maintain customer confidence. ADL-BS has relatively high customer concentration risk, with its two top customers accounting for at least 60% of our 2019 and 2020 ADL segment revenue (and over 50% of firm-wide sales). While microbial fermentation requires significant capital equipment and know-how/experience, thus providing barriers to entry, there are multiple global contract manufacturers with significant fermentation plants that may compete with ADL-BS for current and future business. This latter risk is somewhat offset by continued industry-wide growth in global demand for biotech products in pharma and nutrition industries amenable to ADL-BS's fermentation facilities. BTC owns 73.2% of outstanding ADL-BS shares, and hence other investors will have very limited ability to influence the company's direction without BTC's agreement unless it reduces its position to a minority stake.

Company description: Value-added biochem products

ADL-BS was formed through an inverse acquisition (in April 2018) of privately held ADL Biopharma, a company focused on CMO of pharmaceutical or other biotechnology products and API production, and BNT, a publicly listed (on the Spanish Alternative Stock Exchange, MAB) biotechnology firm focused on developing differentiated products for the veterinary sector. Both firms' operations complement one another, as ADL has infrastructure to manufacture products using its fermentation facilities, but has not generally developed them of its own, whereas BNT develops differentiated, higher-value products and engages full-time R&D staff, but relies on partners for marketing and manufacturing. ADL was formed through the acquisition by BTC in 2014 from the productive assets of the then-bankrupt Spanish pharmaceutical firm, Antibióticos SAU (whose roots were established in 1949). ADL was funded via the infusion of over €40m in capital (€34m of equity and €7m in debt) from BTC, and resumed business operations in 2015. Under BTC's direction, ADL diversified its CMO contracts towards higher-value end-products and recorded €12.2m in 2017 sales. Listed on the MAB exchange since 2012, BNT was a biotech firm offering products and services to the veterinary pharmaceutical sector and recorded €2.4m of sales in 2017, mostly in Europe (c 80%), and the remainder in America. Under the merger, ADL shareholders obtained an 85% stake in the combined company (ADL-BS), with the remaining 15% going to BNT's shareholders.

Exhibit 1: ADL revenue contribution by subsidiary (2017)

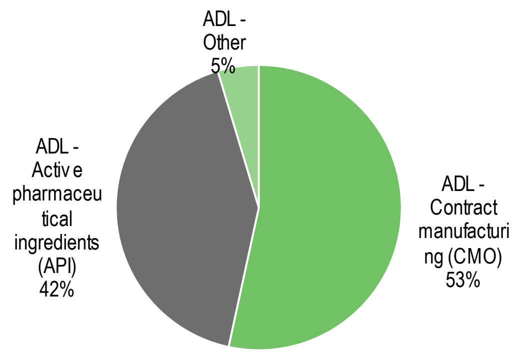
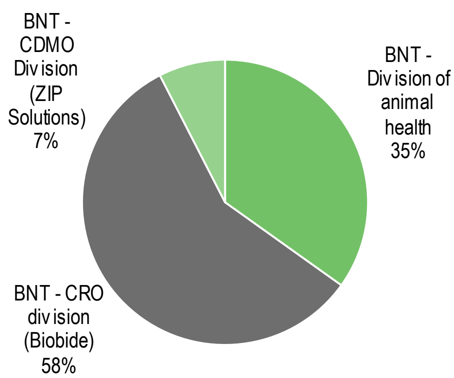


Exhibit 2: BNT revenue contribution by subsidiary (2017)



Source: Company reports. Note: API: active pharmaceutical ingredients.

Growing order book for ADL's fermentation capabilities

ADL's primary focus historically involved the production of β-lactam antibiotics,[1] such as penicillin. Competition from Asia in the 1990s put pressure on global pricing of β-lactams, affecting the company, and contributing to its bankruptcy and cessation of operations in 2013. It was acquired in 2014 by BTC for €9m (excluding liabilities) with the commitment to hire and maintain 170 workers Under BTC's direction, ADL's operations diversified increasingly towards CMO using its industrial fermentation facilities for third parties, with a focus on higher-value end-products (which can be more complex and carry higher margins than simpler or more commoditised products produced by fermentation, such as alcohols). At end FY17, ADL had 240 employees, of whom 23 worked in R&D (including scientists and analysts) and 27 across regulatory affairs and quality control departments.

[1] β-lactam antibiotics tend to be broad-spectrum (acting against a wide range of Gram-positive and Gram-negative bacteria) and are characterised by containing a β-lactam ring (a four-membered lactam, or cyclic amide, group) in their chemical structures. They include penicillin derivatives (penams), cephalosporins (cephems), monobactams, and carbapenems. Most β-lactam antibiotics work by inhibiting bacterial cell wall synthesis.

Its 2017 sales totalled €12.2m, 87% of which were generated in Europe, followed by 7.6% in America, with Asia and the Middle East accounting for the remainder. The ADL unit has two primary business lines involving chemical biotechnology production and processing:

- **CMO services**. With €6.53m in sales in 2017 (up 172% y-o-y), CMO services reflected 53% of 2017 revenue for the ADL unit. The high level of growth shown in 2017 is not surprising given the relatively recent change (2014-15) in firm strategy to target CMO manufacturing more heavily. Products produced in CMO were generally (high-value) biologically active materials such as enzymes, vitamins, food supplements, probiotics, anti-tumour drugs, or biofuels.
- **Manufacturing and commercialisation of β-lactam derived active pharmaceutical ingredients (APIs).** With €5.1m in 2017 sales (up 55% y-o-y), API sales reflected 42% of the ADL unit's 2017 sales and largely involved the production of all types of β-lactam oral and injectable (sterile) antibiotics for human health applications. ADL increased its sterile API production capacity to 60 tons per year in Q118 (from 30 tons per year). ADL's capacity to produce oral APIs (not sterile) is almost 1,000 tons per year. Margins in the API business are lower than in the CMO business, given pricing pressure from Asia.
- **Other.** Reflecting 5% of 2017 sales, ADL also derived revenue from other areas, such as applying its know-how in fermentation and production to provide CRO services to clients, enabling it to assist its customers in optimising production processes and scaling, and also preparing patent applications.

ADL's facilities occupy more than 150,000m^2 of space in León, Spain, with over 90,000m^2 dedicated to production plants and offices, and the remainder largely available for wastewater treatment (WWT). It has five active fermentation tanks (225m^3 capacity each) and three additional 225m^3 tanks requiring additional upgrades or refurbishment prior to becoming commercially active. The upgrades for one of these 225m^3 fermenters is expected to be completed shortly, enabling it to be used for production in Q418. Reconditioning of the two final 225m^3 fermentation tanks is expected in early 2019, and management expects them to be available for commercial production in or around March-April 2019.

Altogether, once all eight 225m^3 fermenters are fully online (by approximately Q219), 2,400m^3 of total fermentation capacity will be available for ADL-BS, making it one of the largest fermentation providers in Europe (along with Capua BioServices and Lonza Group). Its facilities are certified as Good Manufacturing Practices (GMP) compliant by US (Food and Drug Administration), European (European Directorate for the Quality of Medicines, EDQM) and other agencies.

Brief overview of steps in fermentation production

Industrial fermentation is a complex process that converts sugars, starches and cellulosic input material into food, fuel and other industrial or biological products. The process involves using enzymes or microorganisms (such as moulds, bacteria or algae) in controlled chambers referred to as bioreactors or fermenters. Further refinement and downstream processing then purify and isolate the targeted end-product. The steps for commercial fermentation processes include:

1. Fermentation to obtain a base compound.
2. Transformations (enzymatic and/or chemical).
3. Intermediate product formation.
4. Further transformations (enzymatic and/or chemical).
5. Final product synthesis.

β-lactam antibiotic synthesis, a core part of ADL's API business, involves hydrolysing (separating) 6-aminopenicillanic acid (6-APA), from benzylpenicillin (the original penicillin molecule, obtained as part of the fermentation of Penicillium mould) and then adding different side chains to the 6-APA core, thereby generating different penicillin and β-lactam antibiotic forms.

Fermentation industry market characteristics

Fermentation-based commercial end-products can vary widely in pricing, based on the complexity of the production process. Alcohols have market prices under $1000/ton and more complex vitamins, antibiotics, enzymes and probiotics have prices several times higher. Orbis Research estimates that the global fermentation chemical market was worth $56.1bn in 2016, and expects the market to grow at a compound annual growth rate (CAGR) of 5.12% between 2018 and 2023. The fermentation market is very broad and alcohol-based products (including ethanol, butanol, acetone, etc) historically dominated this market by volume and revenue, and account for over 50% of sales. However, the share of alcohol-based products is expected to decline as other fermentation-derived products (including higher-value biotechnology and nutrition products, as well as plastics and fibres) are expected to experience more rapid growth rates.

Geographically, North America accounted for the largest share of fermentation products, accounting for around 35% of the global market. Europe accounts for about 30% of the global fermentation market, with Asia Pacific accounting for the most of the remainder.

ADL know-how and infrastructure a competitive strength

ADL focuses on items with higher value than the simple alcohols produced by agrochemical firms, and which may require more complex processing resulting in higher margins. The complexity of the processes used for certain fermentation or biosynthesis needs may also serve as a barrier to entry to favour experienced producers like ADL.

ADL's core strengths are its know-how and infrastructure in the manufacturing of biological products for pharma and nutrition applications through fermentation, as well as the scalability of its operations, with potential for economies of scale and future expansion with its existing site in León, should demand exceed the scope of the current facilities.

As we discuss later, ADL has secured contracts that can increase its CMO capacity utilisation from c 40% at H118 to about 85% by end FY19. This would represent, in our view, over €45m in contracted annual revenue for the ADL division alone, helping to justify management's decision to diversify into higher-value CMO fermentation and to be less reliant on API manufacturing of β-lactams. We note that other pharma firms have also felt cost pressures in their β-lactam antibiotic businesses, with GSK most recently announcing in October 2018 that it would be closing the sterile injectables part of its Ulverston, UK plant because it is not cost-effective.

Bionaturis adds R&D, product development capabilities

BNT provides R&D and product development capacity, and patented technologies in bioprocesses. It has developed a portfolio of its own biological products, particularly in animal health, which are presently being produced by third parties, but may potentially be transitioned towards ADL's in-house fermentation facilities where appropriate in the medium to long term to provide cost savings (particularly for BNT's higher-margin products). The BNT unit has 40 direct workers (78% with graduate-level university degrees) and a portfolio of 10 major patent families covering specific products and platforms. BNT has €2.4m in sales in 2017 (79.7% Europe and 19.9% Americas), with €1.0m in 2017 EBITDA, and operates through three business divisions:

- **Bioorganic Research and Services (also termed division of animal health, or DAH)**. Based in Jerez de la Frontera, Spain, this unit generally develops biological products (primarily antigens, food additives and probiotics) for the animal healthcare segment, for both food production animals (FPAs) and pets (or companion animals, CAs), and in both prescription and over-the-counter (OTC) formats. Generally, OTC products require less time and investment to obtain marketing authorisations than prescription (Rx) products. The revenue model for this division is based on partnership and licensing agreements with third parties (B2B business model) for developed products (consisting of upfront payments, milestones and royalty payments), as this unit has no consumer marketing arm. DAH experienced €0.833m in sales in 2017 (up 178% y-o-y), with growth due largely to a third-party development contract for the optimisation of manufacturing and pre-industrial scaling of one of its vaccine candidates for the pig sector. There are four primary product lines:

  - **OTC products for FPAs.** The most significant revenue opportunity for BNT was signed in November 2017 as a licence agreement with an unnamed company operating in the Middle East for the exclusive marketing and registration of an OTC probiotic intended for FPAs (cows) to improve immune response and productivity. BNT will supply the product and provide technical assistance, while the client will be responsible for importing, distributing, selling and obtaining marketing authorisation. The licence contract has an initial duration of three years and a minimum annual order commitment of c €4m, once the marketing authorisation has been obtained, which the firm estimates before end FY18.
  - **Rx products for FPAs**. DAH also has a wide range of antigens (at different stages of development) for use as possible vaccines for diseases that affect poultry and swine animals. DAH intends to market these through licensing agreements. The antigens are primarily directed towards swine diseases, including programmes designed for Circovirus and Porcine Reproductive and Respiratory Syndrome (PRRS). Some of these antigens, namely against circovirus, are obtained through BNT's proprietary Flylife process (involving butterfly larvae for production).
  - **OTC products aimed for CPs.** The leading product in this category is a probiotic to treat oral health in pets (dogs and cats) and has been partnered with an undisclosed global firm and the firm anticipates initial sales in 2019. Other OTC products are being developed for osteoarthritis and dermatitis in pets.
  - **Rx products for CPs.** DAH also develops products requiring veterinary prescriptions for pets, notably BNT005, a second-generation vaccine to treat leishmaniasis in dogs. In 2017, DAH entered into a sublicensing agreement with Biotandil for the registration, manufacturing and commercialisation of BNT005 in Argentina and Paraguay; DAH will be entitled to 50% of profits from sales, and is seeking to finalise an agreement for BNT005 for other regions. DAH also develops Mupipet, a lipogel topical antibacterial agent, based on mupirocin, intended to treat cutaneous bacterial infections and prevent infection after surgeries on pets. DAH and Ojer Pharma entered into an agreement in 2017 for the co-development, registration and marketing of Mupipet in Europe.

- **BBD BioPhenix (also termed Biobide).** Responsible for 58% of 2017 BNT sales, Biobide is a contract research organisation (CRO) employing the zebrafish animal model for conducting preclinical efficacy and toxicity research for third-party clients in the pharma/biotech, petrochemical, agrochemical and cosmetic industries. Biobide has a wide portfolio of clients and was acquired by BNT in May 2014. This unit is located in the Technology Park of Guipúzcoa, in San Sebastián, where its facilities include a zebrafish animal house that can hold up to 20,000 adult fish. Biobide generated net sales of €1.38m (up 54% y-o-y) in 2017, with the increase due to signing new CRO contracts throughout the year. However, there are few synergies with the rest of the company as there is no manufacturing involved in this division.
- **Zera Intein Protein (ZIP) Solutions (also termed Contract Development and Manufacturing Organisation or CDMO division).** BNT acquired ZIP Solutions in May 2016, and it contributed 8% of 2017 BNT revenue. Based in the Research Park of the Universitat Autónoma de Barcelona, this unit has four employees and provides technological assets to assist third parties in their biotech product development efforts. Its Splittera platform allows for single-step (potentially reducing bottlenecks) expression and purification of protein-based products, and can provide advantages to enzyme-linked immunosorbent assay (ELISA)

diagnostic systems. ZIP Solutions has out-licensed Splittera to a global medical instrumentation/diagnostics firm to expand its usage, and expects to receive initial revenues (milestone payments) in 2019. ZIP Solutions also offers its Zera vaccines platform to allow developers to purify and optimise the parameters and expression criteria for recombinant[2]-type antigens for developing vaccine applications. BNT may out-license it for the development of biological vaccines for animal health applications. Sales of the CDMO division during FY17 were €0.18m (up 49% y-o-y), including payments for milestones provided for licensing Splittera.

Altogether, while DAH accounted for 35% of BNT's 2017 revenue, we expect product sales growth (primarily from the OTC probiotic for cows described above, the partnered probiotic for CPs, and BNT005) will result in it comprising the majority of BNT sales by 2019. Biobide is expected to have a more moderate level of growth consistent with its role as a CRO service provider.

Putting the pieces together: Possible synergies

While the ADL-BNT combination provided the immediate benefit of a public market listing for ADL shareholders and improved access to capital, there may also be the opportunity for longer-term vertical integration synergies. BNT's R&D and new product development efforts could potentially be better leveraged through ADL's resources; the CMO and API production contracts will provide a recurring base of income and cash flow generation that could potentially support the R&D and product development efforts at BNT.

Management stated that eventually it plans to use internal production facilities to manufacture BNT DAH's higher-margin products, and it expects that internally produced BNT products would generate higher margins than products manufactured for third parties in the current CMO and API businesses of ADL. That said, the large majority of revenue growth on an absolute basis in the coming years is being driven by contract wins and CMO production at ADL's fermentation facilities.

Capital investments to boost fermentation capacity

Facing robust demand from prospective customers for fermentation production, ADL has embarked on capex and refurbishment activities to upgrade and modernise all of its eight 225m^3 fermenters, refine its antibiotic API production to meet customer demands, and develop wastewater treatment (WWT) facilities. In 2017, ADL spent €6.8m in capex in its tangible and intangible assets, and ADL-BS plans to spend c €15–20m in 2018 and early 2019 in capex investments to meet the above objectives and have 2,400m^3 of fermentation capacity commercially available by mid-2019. Overall, €3.3m was spent on tangible and intangible fixed assets in H118.

With these investments, ADL-BS expects its fermenters to be capable of capturing lines of business that offer a higher differentiation from competitors, with greater added value in the products and potentially higher margins (seeking gross margins near 50% for some of its contracts).

To finance the capex activities, on 19 July 2018 ADL-BS announced the issuance of 5.454m shares (in an offering made entirely to institutional investors) at €2.20 per share, thereby raising €12m (gross). It also recently received a €5m loan (October 2018) from a Spanish government agency. We believe the firm is likely to have sufficient funding to complete these investments with one of the fermenters being available for production in Q418 and the latter two available in H119, as stated previously.

[2] Developed through artificial processes (using laboratory methods) involving genetic recombination of materials from separate sources or organisms.

Waste treatment plant improvements

Spanish and European regulations impose strict requirements on wastewater treatment. Presently and previously, ADL was required to transport its waste by-products to third parties for treatment, entailing additional costs. Part of the budgeted and ongoing capex initiatives is to develop an integral WWT plant at the firm's premises in León, Spain, which would be capable of treating 3.2m cubic meters of effluent per year. Components include a sewage treatment plant and an incineration plant, which would be completed by year-end FY18 and could start operations in mid-2019. The different effluent sources involved in the production lines (culture broths, means of aqueous reaction, etc) together with rainwater, would be treated in the treatment plant and subsequently discharged to the Bernesga River.

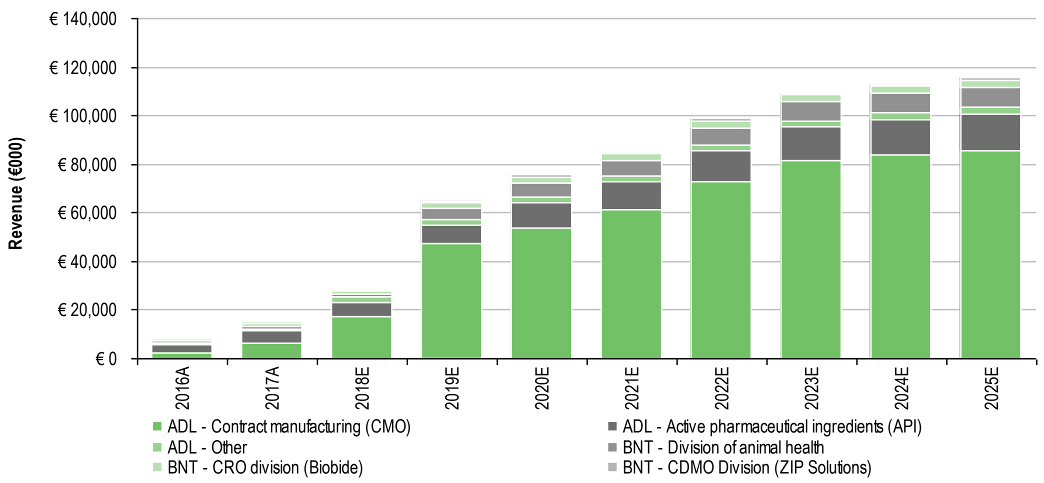
Once the firm's own WWT plant is operational (mid-2019), the firm believes it could save between €1.5 and €3.0m in operating costs per year. ADL-BS also plans to generate incremental revenue by offering its upcoming WWT functions to nearby industrial/chemical companies and contacts near the León region.

Financial forecasts and outlook

ADL-BS management has secured a pipeline of CMO contracts to fill production capacity. While BNT should also experience some growth from the probiotics and vaccines described earlier, we expect the ADL segment revenue will contribute to company-wide revenue growth to a much larger extent.

Management estimates that its current fermentation operations in H118 were running at less than 40% of total capacity (which includes the fermenters that are being reconditioned to be online by mid-2019), and its API (antibiotic) capacity is at c 25% maximum utilisation. With recently signed contracts (as described below), the company estimates that it will have 85% of fermentation capability committed by year-end FY19. The API production capability is difficult to predict as the company only has one long-term API contract and it runs for about 15% of total potential capability.

Exhibit 3: ADL Bionatur revenue forecasts by division



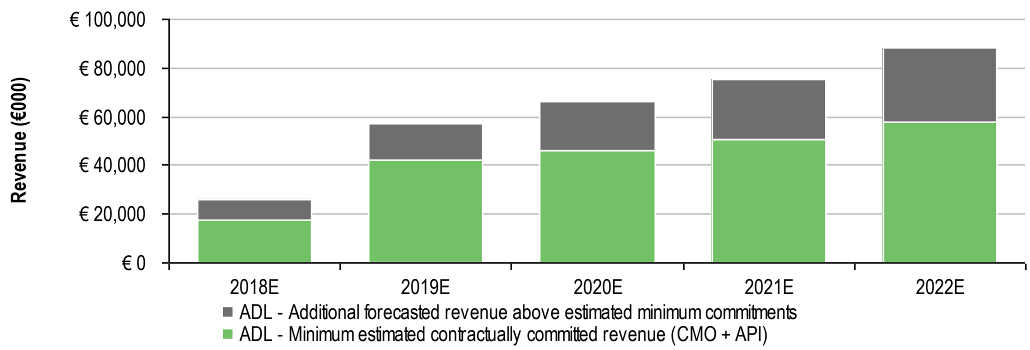
Source: Edison Investment Research

The majority of ADL-BS's revenue and near-term revenue growth is derived from its fermentation business, particularly CMO. It recently secured significant manufacturing contracts (within ADL) that could add up to €30.0m in additional sales for 2019 (vs 2018). The contracts below improve revenue visibility and, collectively, should allocate for >80% of company-wide revenue.

- **Contract 1.** A six-year CMO contract worth a cumulative €146m. Signed in autumn 2017, this contract is to produce flucosil-lactose, a key component of breast milk substitutes for maternal health for a German company. Management expects the contract to generate approximately €8m in 2018, and ramp up to c €20m in 2019. The scaling up of production volume is expected to have only a relatively minor incremental impact on total operating costs, and hence significant company-wide margin expansion is anticipated in 2019 from this contract.
- **Contract 2**. Originally signed in early 2018, a two-year CMO contract to produce a fermentation-derived skincare product for Amyris (AMRS, Nasdaq), a developer of ingredients for the health & wellness, beauty and flavours and fragrances markets. The contact was expanded in June 2018 in response to higher than expected demand from Amyris's partners, and will include the manufacturing of additional products for Amyris. ADL expects revenue from the arrangement to be €4.5m in 2018 and potentially above €15m in 2019.
- **Contract 3.** A CMO contract to produce beta-carotene (a food colouring) for a multinational health/nutrition firm, at a minimum quantity of €3.5m per year, renewable annually.
- **Contract 4.** A two-year renewable contract for the API division (€2.5m per year) to produce penetamate, a sterile (injectable) antibiotic used in animals.
- **Contract 5.** In September 2018, ADL-BS entered into a long-term CMO contract with Fermentalg (FALG, Euronext) to produce its algal-derived DHA oil product. Validation and technology transfer are expected to be completed by year end FY18, following which ADL-BS will apply a dedicated portion of its fermentation capacity to produce product supply. Sales quantities have not been made public, but we assume at least €2.0m annually starting in 2019.

A key driver of ADL-BS's investment case is that much of the revenue growth in coming years has been contractually committed through these five multi-year (or renewable) contracts. While our ADL sales forecasts assume additional sources of revenue as well as quantities (from the five cited contracts) above the amounts we believe to be the minimum contractually committed, there is some reassurance that there should be a minimum level of committed CMO and API revenues in the coming years, as shown below.

Exhibit 4: Estimated breakdown of contractually committed ADL segment revenue



Source: Edison Investment Research

ADL-BS indicates that it is also negotiating for relevant CMO contracts in other fields, such as food, cosmetics, intermediate products of oncology, silk, biodiesel, etc.

Given the above, we expect ADL segment revenue to grow at >100% annually in both 2018 and 2019, largely driven by growth in CMO production (particularly due to Contracts 1 and 2) as capacity utilisation increases sharply. The increase in ADL capacity utilisation should strengthen product margins (better absorption of fixed costs such as utilities and maintenance), and we expect positive company-wide EBITDA starting in 2019.

In parallel, we anticipate strong growth, particularly in 2018-2020, from the BNT division, driven by sales gains from targeted products described earlier, namely the OTC probiotic intended for cows for the Middle East market, OTC probiotic for CAs, BNT005, and Mupipet. There is less visibility on new BNT product introductions in the following years, so our BNT growth forecasts for subsequent years are more moderate.

Within ADL, the CMO division carries higher margins (gross margins can exceed 45% per contract) than the API business (gross margins can be between 10% and 45%). The CMO business accounted for 53% of ADL segment revenue in 2017 and, given the above contracts, we expect its share (of ADL segment revenue) to rise to 67% in 2018 and 83% in 2019, and subsequently stabilise at 81–83%. As CMO accounts for a larger share of revenue than API, this should also lead to upward trends in firm-wide gross and EBITDA margins. Our margin forecasts and assumptions also include considerations for production downtimes and technology transfer activities.

Exhibit 5: ADL Bionatur Solutions operating forecasts

€000s	2017	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e
ADL segment sales (CMO, API and other)	12,229	25,696	57,090	66,324	75,134	87,995	98,006	101,171	103,518
Growth y-o-y (%)	99.4	110.1	122.2	16.2	13.3	17.1	11.4	3.2	2.3
BNT Segment sales	2,389	2,090	7,705	9,179	9,931	10,643	11,432	11,889	11,965
Growth y-o-y (%)	82.0	-12.5	268.7	19.1	8.2	7.2	7.4	4.0	0.6
Total revenue	14,619	27,786	64,795	75,503	85,064	98,638	109,438	113,060	115,483
Growth y-o-y (%)	96.3	90.1	133.2	16.5	12.7	16.0	10.9	3.3	2.1
Gross profit	11,677	13,561	25,242	29,738	33,775	39,743	44,251	45,573	46,325
Gross margin (%)	79.9	48.8	39.0	39.4	39.7	40.3	40.4	40.3	40.1
EBITDA	(10,378)	(9,248)	5,742	10,112	13,313	18,410	22,009	22,383	22,148
EBITDA margin (%)	(71.0)	(33.3)	8.9	13.4	15.7	18.7	20.1	19.8	19.2
Net debt/EBITDA (x)	N/A	N/A	8.7	4.5	2.9	1.5	0.7	0.1	(0.5)
*Adjusted net debt/EBITDA (x)	N/A	N/A	7.5	3.8	2.4	1.1	0.4	(0.2)	(0.8)

Source: Edison Investment Research, company reports. Note: *Net debt adjusted to exclude €7.0m shareholder loan from Black Toro Capital.

Agreement with Wacker Biosolutions León

In late 2016, ADL entered into an arrangement with Wacker Biosolutions León (Wacker), whereby it sold a series of assets (involved with fermentation processing) in its facilities to Wacker. Shortly after signing an addendum in January 2018, Wacker started to utilise these assets (and to pay operating, usage and maintenance-related costs to ADL) for its own commercial fermentation needs for an agreed 20-year term. In addition, 15 ADL employees were transferred to Wacker in parallel. The related facilities are involved with the manufacture of L-Cysteine. ADL-BS is expected to start recording revenue from this arrangement in 2018. We estimate Wacker-related revenue can potentially reach €2.0m on an annualised basis, and we classify this along with WWT-related service revenue to local firms as 'other revenue' in the ADL segment.

Sensitivities

Operating and regulatory risk. ADL-BS's CMO and API operations must adhere to regulatory criteria to maintain their GMP certifications and customer confidence. As in any manufacturing operation, there are risks (eg contamination, biohazard, personnel etc) that exist and must be well-managed to ensure continuous and predictable production. The company must also complete the relevant facility upgrades and technology-transfer activities in the timelines promised to customers to meet revenue goals and maintain customer confidence. For BNT DAH, some of its commercial (eg OTC food probiotic contract for the Middle East market) and prescription (eg BNT005) are contingent on meeting the appropriate commercial approvals for their target markets, which include meeting requisite safety and effectiveness criteria.

Customer concentration risk. ADL-BS has relatively high customer concentration risk, with one customer (flucosil-lactose contract) accounting for over 30% of our forecast 2019 and 2020 ADL segment revenue. While the contract is structured for minimum committed payment amounts (take or pay), it still represents a certain risk if the customer faces financial difficulties or does not honour the terms of the agreement. Altogether, we estimate that this contract, combined with the Amyris CMO contract, represents at least 60% of 2019 and 2020 ADL segment revenue, and 50% of firm-wide sales.

Financing risk. While our model assumes that ADL-BS will not require additional financing to reach sustainable positive operating and free cash flows, in the event that some of the commercial targets are not met, or if there are delays or hindrances with contracted arrangements, the firm may need to raise some funding to cover shortfalls and/or maintain its balance sheet. While the firm has been able to obtain debt financing at favourable interest rates in the past, this is not assured going forward and the firm may need to issue equity instead. In such a case, there is the risk that pricing is not favourable for current shareholders (leading to significant dilution). Our model assumes the firm will raise €5m in debt in 2019.

Competition risk. While microbial fermentation requires significant capital equipment and know-how and experience, thus providing barriers to entry, there are already multiple contract manufacturers with significant fermentation operations (including the bio-fermentation markets that ADL-BS targets) that may compete with ADL-BS for current and future business. Examples of such competitors includes Lonza Group, AbbVie, Capua BioServices, Novozymes, DSM, Chr Hansen, Wacker Group and GSK, to name a few. This risk is somewhat offset by continued industry-wide growth in global demand for biotech products in the biopharma and nutrition industries amenable to ADL-BS's fermentation operations.

Foreign exchange risk. The company appears to have limited FX exposure, as the majority of its API, CMO and BNT business is conducted in euros, and even its Amyris contract (a US customer) is denominated in euros. The largest non-euro contract, in our estimation, is BNT's cow probiotic contract, which we estimate represents c 4-5% of FY19 revenue.

Controlling shareholder. BTC owns 73.2% of outstanding ADL-BS shares and has effective control of the company. The changes BTC has overseen since it purchased ADL in 2014 have been positive and there are benefits in having strong, supportive shareholders. That said, new investors in ADL-BS will have very limited ability to influence the company's direction without BTC's agreement unless it reduces its position to a minority stake.

Financials

ADL-BS reported consolidated 2017 results with €14.6m in revenue, an EBITDA loss of €10.4m, and a net loss of €13.7m. The ADL-BNT combination was completed in April 2018 and the firm reported H118 results on 30 October 2018. It reported €7.4m in sales across the ADL unit, excluding €0.9m in operating income from its leasing arrangement with Wacker. Only two months of operations from the BNT unit (May and June) were included in the results (as the merger closed in April), which combined with seasonality effects, resulted in only €0.19m in BNT segment revenue. ADL-BS's H117 comparative results did not include any income or expenditure from BNT, so the year-on-year analysis is not a direct comparison.

Despite these limitations, within the ADL segment CMO revenue increased 72% y-o-y, although API sales declined 26%. Total ADL segment revenue (inclusive of Wacker operating income) increased 52% y-o-y. We note that our calculations of firm-wide gross profit and EBITDA differ slightly to what the firm reports in its statements, but net results are identical. Gross profit increased 49% to €5.9m, largely due to increased CMO activity within the ADL segment, although EBITDA was negative, coming in at a €6.2m EBITDA loss in H118. The EBITDA drag is explained by low H118 capacity utilisation (c 40%), as only two of its fermenters were running for most of the quarter, whereas five fermenters are expected to be running for most of H218 (leading to Q418 utilisation of c 65–70%). The firm expects to report company-wide positive EBITDA starting in Q418 (and it expects to report its financials on a quarterly basis, starting in 2019). It recently indicated positive EBITDA for October 2018.

Exhibit 6: ADL Bionatur Solutions H118 financial results

(€000)	H118	H117	Difference y-o-y
ADL segment revenue (CMO, API, and other)			
Contract manufacturing	4,824	2,810	72%
Active pharmaceutical ingredients	1,714	2,303	-26%
Other sales (excluding Wacker)	866	168	415%
Wacker operating income	942	222	324%
Total ADL segment revenue	8,346	5,503	52%
BNT segment*			
CRO (Biobide) Division	180	na	na
Division of Animal Health	2	na	na
CDMO Division	8	na	na
Total BNT revenue*	**190**	**0**	**na**
Total revenue	**8,536**	**5,503**	**55%**
Total gross profit	**5,892**	**3,966**	**49%**
Gross margin (%)	69.0	72.1	-305 bps
G&A and other operating expenses	(12,109)	(8,948)	35%
EBITDA	**(6,217)**	**(4,983)**	**25%**
Depreciation/amortisation	(935)	(423)	121%
EBIT (operating income)	**(7,152)**	**(5,406)**	**32%**
Financial and other expenses	(1,225)	(957)	28%
Income tax	0	(140)	-100%
Net results	**(8,377)**	**(6,503)**	**29%**

Source: ADL Bionatur Solutions, Edison Investment Research. Note: *Only includes May and June 2018 for BNT division.

ADL-BS had €41.2m in net debt (€44.3m in gross debt offset by €3.1m in cash and short- and long-term financial investments) at 30 June 2018. The firm indicates it raised €5m in debt (from ADE Capital Sodical) in October 2018 to fund its fermentation-related capex initiatives (facility modernisation, production capacity expansion). Given the €12m equity financing completed in July 2018, we estimate YE18 net debt of approximately €45.4m (€49.3m gross debt offset by €4.7m in cash and equivalents). The firm's gross debt includes a €7.0m shareholder loan from BTC, which carries a variable interest rate tied to the company achieving earnings before interest and taxes (EBIT) in excess of €30m. Excluding this shareholder loan, the firm's adjusted net debt at year-end FY18 would be approximately €38.4m.

Further capital raises may not be absolutely required for the firm to attain consistent profitability, but ADL-BS may seek modest funding to further modernise some of its facilities. Our model assumes the firm will raise an additional €5m in debt in 2019.

We expect the ramping up of the flucosil-lactose contract to swing the firm into profitability in FY19. Our model assumes that the firm will spend €13m in capex in 2018 (on the fermentation site upgrade and WWT plant investments) and €5m in 2019. Beyond 2019 we assume capex will be lower (c €3-4m) as the company maintains existing manufacturing infrastructure rather than invests in capacity expansion. On our estimates, and as shown in Exhibit 5, we expect the firm's adjusted net debt/EBITDA ratio (which excludes the €7.0m BTC loan) will improve from 7.5x in FY19 to 3.8x in 2020.

Over 90% of the firm's total outstanding debt is due after 2021. We estimate that 50-55% of ADL-BS total debt is from government sources, with a €15.6m long-term loan (at a rate of 2.3% pa) from the Spanish ministry of industry being its single largest loan. ADL-BS has numerous non-government loans from banks and other financial institutions (allocated for working capital, longer-term debt, leasing etc) and we estimate the average interest rate on its non-government debt is between 2.2% and 2.7%; according to management, the highest rate it is paying is 3.25% for one of its bank loans. Given the above, we estimate and model that the firm's pre-tax cost of debt is 2.5% (1.88% after tax cost assuming a 2.5% tax rate).

Valuation

We value ADL Bionatur Solutions using a discounted cash flow (DCF) approach and, as per our usual policy for operating healthcare firms with a non-insignificant amount of net debt within their capital structure, we apply a 10.0% cost of capital (CoC). Most of ADL-BS's revenue (85-90% through at least 2025 according to our forecasts) is based on manufacturing (ADL division), and the production facilities and products under contract already meet relevant regulatory standards. Given this and that the majority of revenues forecast for the BNT division have also met associated regulatory hurdles, we do not apply additional regulatory risk adjustments to our forecasts and valuation. To determine the enterprise value (EV) of ADL-BS, we apply a 10% CoC to three forecast periods. Our explicit forecasts cover our estimates for the period FY18-2028, followed by an intermediate growth period (3% pa company-wide growth between FY29 and FY35), and finally a terminal value from FY36 (1.5% pa growth). Given the firm's €4.8m in non-current deferred tax assets and based on our discussions with management, our model does not anticipate the firm will pay income taxes until 2023. Given these assumptions, we derive an EV of €138.8m. After removing €45.4m in Q418e net debt, we determine an equity valuation of €93.4m, or €2.37 per share.

Exhibit 7: DCF valuation for ADL Bionatur Solutions

Component	Value
Present-value of cash flows of explicit (FY18-2028) forecast period (€000)	59,741
Present-value of cash flows from intermediate-growth (3% pa from FY29-2035) period (€000)	33,083
Present-value of terminal value (from FY36 and beyond) assuming 1% terminal growth rate (€000)	45,950
Total enterprise value (€000)	138,774
Net debt at Q418e (€000)	45,411
Total equity value (€000)	93,363
FD shares outstanding (000) (Q418e)	39,389
Implied equity value per share (€)	2.37

Source: Edison Investment Research. Note: We apply a 10% cost of capital.

ADL-BS's campus in León has land available to expand existing or build new fermentation facilities (and associated buildings/housing) if and when its fermentation/production demand exceeds current capacity. Our model and forecasts do not consider further fermentation capacity expansion (beyond the 2,400m^3 capacity), but if the company pursued this strategy it could add potential long-term upside to our growth and valuation forecasts.

Exhibit 8: Financial summary

€'000s	2017	2018e	2019e	2020e	2021e	2022e
31-December	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS						
Revenue	14,619	27,786	64,795	75,503	85,064	98,638
Cost of Sales	(2,941)	(14,225)	(39,554)	(45,765)	(51,290)	(58,895)
General, administrative and other operating expenses	(22,055)	(22,809)	(19,500)	(19,626)	(20,462)	(21,333)
EBITDA	(10,378)	(9,248)	5,742	10,112	13,313	18,410
Depreciation	(2,212)	(2,283)	(3,240)	(3,775)	(4,253)	(4,932)
Operating Profit (before exceptionals)	(12,590)	(11,531)	2,502	6,337	9,060	13,478
Exceptionals	(11)	0	0	0	0	0
Operating Profit	(12,601)	(11,531)	2,502	6,337	9,060	13,478
Net Interest	(1,151)	(1,804)	(1,295)	(1,358)	(1,358)	(1,358)
Profit Before Tax (norm)	(13,741)	(13,335)	1,207	4,979	7,702	12,120
Profit Before Tax (FRS 3)	(13,752)	(13,335)	1,207	4,979	7,702	12,120
Tax	375	0	0	0	0	0
Profit After Tax and minority interests (norm)	(13,366)	(13,335)	1,207	4,979	7,702	12,120
Profit After Tax and minority interests (FRS 3)	(13,377)	(13,335)	1,207	4,979	7,702	12,120
Average Number of Shares Outstanding (m)	20.8	37.6	39.4	39.4	39.4	39.4
EPS - normalised (€)	(0.64)	(0.35)	0.03	0.13	0.20	0.31
EPS - normalised and fully diluted (€)	(0.64)	(0.35)	0.03	0.13	0.20	0.31
EPS - (IFRS) (€)	(0.64)	(0.35)	0.03	0.13	0.20	0.31
Dividend per share (€)	0.0	0.0	0.0	0.0	0.0	0.0
BALANCE SHEET						
Fixed Assets	30,839	63,525	65,285	65,510	64,257	62,325
Intangible Assets	1,302	14,330	14,330	14,330	14,330	14,330
Tangible Assets	27,975	48,104	49,865	50,090	48,836	46,904
Investments in long-term bonds	1,562	1,091	1,091	1,091	1,091	1,091
Current Assets	16,339	17,388	24,698	30,670	40,761	56,408
Short-term investments	2,459	1,341	1,341	1,341	1,341	1,341
Cash	2,503	1,466	1,861	6,002	13,326	25,004
Other	11,377	14,581	21,496	23,327	26,094	30,063
Current Liabilities	(11,113)	(15,872)	(18,736)	(19,954)	(21,090)	(22,685)
Creditors	(5,288)	(5,856)	(8,720)	(9,938)	(11,073)	(12,668)
Short term borrowings	(5,825)	(10,017)	(10,017)	(10,017)	(10,017)	(10,017)
Long Term Liabilities	(21,541)	(39,760)	(44,760)	(44,760)	(44,760)	(44,760)
Long term borrowings excluding loan from majority shareholder	(21,530)	(32,292)	(37,292)	(37,292)	(37,292)	(37,292)
Loan from majority shareholder	0	(7,000)	(7,000)	(7,000)	(7,000)	(7,000)
Other long term liabilities	(10)	(469)	(469)	(469)	(469)	(469)
Net Assets	14,524	25,280	26,486	31,465	39,167	51,287
CASH FLOW						
Operating Cash Flow	(10,329)	(10,040)	1,691	9,498	11,682	16,036
Net Interest	(1,151)	(1,804)	(1,295)	(1,358)	(1,358)	(1,358)
Tax	0	0	0	0	0	0
Capex	(191)	(13,262)	(5,000)	(4,000)	(3,000)	(3,000)
Acquisitions/disposals	0	0	0	0	0	0
Financing	519	12,000	0	0	0	0
Net Cash Flow	(11,153)	(13,107)	(4,605)	4,140	7,324	11,678
Opening net debt/(cash)	(6,215)	20,832	45,411	50,015	45,875	38,551
HP finance leases initiated	0	0	0	0	0	0
Other	(15,894)	(11,472)	0	0	0	0
Closing net debt/(cash)	20,832	45,411	50,015	45,875	38,551	26,873

Source: Edison Investment Research, company reports

Contact details	Revenue by geography
ADL Bionatur Avenida del Desarrollo Tecnológico, nº 11. Scientific and Technological Park (Jerez). 11591 Jerez de la Frontera (Spain) (+ 34) 856 818 424 http://www.bionaturisgroup.com	N/A

Management team

Chief executive officer: Pilar de la Huerta	President of Bionaturis/animal health division: Victor Infante
Pilar de la Huerta was appointed CEO of ADL Biopharma in June 2017 and is the group CEO following the merger with Bionaturis in April 2018. Pilar de la Huerta holds a degree in business administration from the Universidad Complutense de Madrid and a master's in business management from IESE. She has more than 20 years' experience in the pharmaceutical and biotech sectors, where she held senior management positions in firms such as Genetrix, Neuropharma and Zeltia. Prior to joining ADL, she was CEO of Syngis.	Victor Infante is the founder of Bionaturis Group. He has a PhD in sciences from the University of Cádiz and has served as the chief executive officer of Bionaturis since he founded the company in 2005. He continues to lead this unit following the merger with ADL Biopharma.
Chief operating officer: Carlos Gispert	**Chief financial officer: Rafael Guerras**
A civil engineering graduate, Mr Gispert has more than 30 years of experience in project management and managerial experience in with several different companies. He has also had directorship positions on various company boards, in several geographical areas. He has participated in operations of integration and expansion of national and international businesses. Before joining ADL Bionatur Solutions, he worked at Obrascón Huarte Lain (OHL) as director of special projects in Canada.	Rafael Guerras Bernabé has an economics degree from the University of Saint Louis, Missouri, US, and an MBA from San Pablo University-CEU in Madrid, Spain. He has over 15 years of experience as chief financial officer in companies in very diverse sectors such as construction, the hotel industry, naval management, banking and the chemical and pharmaceutical sector, having been an active member of the boards of directors in these companies. Mr Guerras has led multi-disciplinary teams focused on the efficiency and optimisation of the financial and human resources departments.

Principal shareholders	(%)
Black Toro Capital	73.23
Victor Infante	5.08

Companies named in this report

AbbVie, Amyris, Capua BioServices, Chr Hansen, Fermantalg, GSK, Lonza Group, Novozymes, Wacker Group

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