

Initiating Coverage Advanced Enzyme Technologies Ltd.

September 27, 2021





Advanced Enzyme Technologies Ltd.

Industry	LTP	Recommendation	Base Case Fair Value	Bull Case Fair Value	Time Horizon
Agri-Products/Pharmaceuticals	Rs. 380.4	Buy in the Rs 380-385 band & add more on dips of Rs. 332.5	Rs. 422.5	Rs. 458.5	2 quarters

HDFC Scrip Code	ADVENZEQNR
BSE Code	540025
NSE Code	ADVENZYMES
Bloomberg	ADVENZY IN
CMP Sep 24, 2021	380.4
Equity Capital (Rs cr)	22.3
Face Value (Rs)	2
Equity Share O/S (cr)	11.15
Market Cap (Rs cr)	4252
Book Value (Rs)	87
Avg. 52 Wk Volumes	484211
52 Week High	503
52 Week Low	220

Share holding Pattern % (Jun, 2021)	
Promoters	52.3
Institutions	28.7
Non Institutions	19.0
Total	100.0



HDFCsec Retail research stock rating meter

for details about the ratings, refer at the end of the report

* Refer at the end for explanation on Risk Ratings

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Our Take:

Advanced Enzymes Technologies is a leading player in enzymes and probiotics that play a crucial role in health and nutrition. Its products have applications in various other end-user industries as well. Despite being a small player in a US\$ 10bn+ industry, the company has more than 700 clients spread across 45 countries and a comprehensive product basket of 68 enzymes and probiotics and over 400 proprietary products. This market is dominated by the likes of Novozymes, Danisco, DSM, BASF, etc. which together account for ~75% of the market. The company is amongst the top-15 global enzyme companies having highest market share in India. Currently Human Nutrition is the biggest segment wherein it engages with Pharmaceutical and Nutraceuticals companies in India and overseas. The opportunities in other segments like Animal Nutrition and Food Processing segments could open up in a big way over the medium term. Probiotics is used across all the key focus segments. Demand for health and hygiene is on the rise and there is huge headroom for growth in Nutraceuticals, especially in USA. Enzymes are used across all food items, including bakery, dairy products etc. which are big segments. While Novozymes is the global leader in industrial enzymes with ~48% market share, Pharma is not its key focus area and hence direct competition is limited. Largest product which is anti-inflammatory enzyme contributed to Rs 113cr, +10% YoY in FY21. Top-10 clients contributed to 38% of revenue in FY21. Despite losing its top client in the US which contributed ~US\$ 5.5mn to revenue, US sales grew 12% YoY in FY21.

Over the last five years, the company has enhanced fermentation capacity from 360 cubic metre to ~510 cubic metre. Apart from this, the company has superior R&D capabilities with seven R&D centers and nine manufacturing facilities across India and the US. Advanced Enzyme is currently operating at ~60% capacity utilisation and hence capex requirement in the next 2-3 years is minimal. Extensive technical know-how and a large product basket have led to leadership position in the domestic healthcare and nutrition segments. Recently the company had announced a positive clinical breakthrough in the randomized controlled trials (RCTs) of systemic enzymes and probiotics to resolve 'long covid' fatigue symptoms. International sales account for around 54% of the revenue, with the US being a major contributor. Company continues to invest in R&D (~4% of revenue). Enzymes industry has very high entry barriers on account of extensive R&D focus and long gestation period before getting registration approvals for products in USA and EU. Management said that the focus area continues to be on bio-catalysis for API, probiotics and also B2C business in nutraceuticals segment. The focus continues to be on the bakery division, and further expanding baking solutions in US and European market. Company acquired 51% stake in Sci-Tech specialties (SSPL) for Rs 31.6cr in Dec-2020. It had registered revenue/PAT of Rs 38cr/Rs 3cr in FY21. Thus, the company has new segment called specialized manufacturing business. Company plans to double its revenue over the next five years with operating margin in the broad range of 42-48%.



Valuation & Recommendation:

Enzymes industry has very high entry barriers on account of extensive R&D focus and long gestation period before getting registration approvals for products in USA and EU. Most companies are now moving away from synthetic products to eco-friendly solutions and enzymes. The three future growth pillars of the company comprises of continued investment in R&D, expansion of its geographic presence and constant focus on inorganic growth opportunities. We estimate revenue/EBITDA/PAT CAGR of 16%/16%/17.3% over FY21-23E. Company has net debt free Balance Sheet with cash & equivalents of around Rs 320cr as on Mar-2021. The company continues to look for inorganic growth opportunities impact of which is not included in our assumptions. Management has guided for a broader EBITDA margin range of 42-48% considering likely increase in overhead expenses and some pressure on gross margin. We expect margins to remain more or less stable in the 45-47% range over FY21-23E. The enzyme industry is dominated by big MNCs like Novozymes, DSM Nutritional Products, BASF etc. However, at the same time smaller players like Advanced Enzyme are gaining ground in the segment helped by innovation and newer technologies. We feel investors can buy the stock in the band of Rs 380-385 and add more on dips to Rs 332.5 for base case target of Rs 422.5 (23.5x FY23E EPS) and bull case target of Rs 458.5 (25.5x FY23E EPS) over the next two quarters.

Financial Summary

Particulars (Rs cr)	Q1 FY22	Q1 FY21	YoY (%)	Q4 FY21	QoQ (%)	FY19	FY20	FY21	FY22E	FY23E
Total Revenues	137	111	24.0	133	2.9	420	444	502	590	678
EBITDA	63	52	21.5	55	14.2	182	202	232	270	314
Depreciation	8	7	23.9	8	-1.2	21	26	28	33	36
Other Income	1	5	-80.0	2	-41.2	5	6	9	7	9
Interest Cost	1	0	4.2	0	11.1	4	3	2	1	1
Tax	15	15	0.7	14	7.9	46	46	59	68	77
APAT	38	34	11.1	32	20.1	111	129	146	169	201
EPS (Rs)						9.9	11.6	13.1	15.1	18.0
RoE (%)						17.9	17.0	16.1	16.1	16.4
P/E (x)						38.5	33.0	29.2	25.3	21.2
EV/EBITDA (x)						22.1	19.8	17.3	14.9	12.8

(Source: Company, HDFC sec)

Q1 FY22 result update

Q1FY22 revenues grew 24% YoY to Rs 137cr on the back of 55.7% YoY growth in industrial processing segment to Rs 20.4cr. Animal HC witnessed growth of 32.1% YoY to Rs 14cr whereas Human HC segment grew by 2.8% YoY to Rs 89cr. EBITDA margin contracted 100 bps YoY to 45.8% mainly due to higher other expenditure. Net profit increased 11.1% YoY at Rs 38cr. R&D spend for the quarter was at Rs 3.4cr.



Conference Call highlights

- Top 10 customers accounted for 34% of sales (43% in Q1FY21). Top product contributed Rs 24.5cr to revenue in the quarter.
- Current capacity utilization stood at around 60%
- Management guides for 75-80% gross margin and 42-48% EBITDA margin in the medium term.
- Evoxx reported revenue/EBITDA/PAT of Rs 28.2cr/Rs 5.2cr/1.3cr in FY21. Evoxx sales during the quarter was at Rs 6.2cr.
- JC Biotech reported revenue/EBITDA/PAT of Rs 54cr/Rs 15cr/Rs 7.8cr in FY21. JC revenue in the quarter at Rs 12.3cr.
- Sales growth ex-SSPL in the quarter was at 12% YoY.
- Key focus areas outlined by the management- Food, Biocatalyst, Probiotics
- Domestic: exports breakup during the quarter was at 42: 58
- In Human nutrition segment, around 45% of revenue is from domestic market and 55% from international markets. In the domestic business, API is about 36%, probiotic at 3% and biocatalyst at 6%. In international business, 42% is nutrition and probiotic at 13%.
- Largest product which is anti-inflammatory enzyme contributed to Rs 113cr, +10% YoY in FY21. Company is in the process of introducing more probiotics products in human nutrition for the immunity development, active health food, gut health and various nutraceutical applications.
- It has made significant progress on developing bio catalases for API manufacturers, providing enzymatic based solutions that are target specific, helping them to save cost of energy, time and use of chemicals. Couple of products are in advanced stages of trials at plant level by the API manufacturers.
- The company has several enzymes for the food processing segment. It has filed 12 dossiers with European Food Safety Authority (EFSA) and got positive news for four of the product dossiers.

Business and its Outlook

Advanced Enzyme Technologies is an integrated company with a presence across the enzyme value chain, covering the entire range of activities from R&D, commercial-scale manufacturing, to marketing of enzyme products and customized enzyme solutions. This allows it to cater to its clients' unique and specific requirements, and provide them value-added solutions, which further enhances the business profile and strengthens clientele relationships. Over the last five years, the company has been spending ~4% of sales on R&D. Company operates into mainly four segments i) Human Nutrition ii) Animal Nutrition iii) Industrial Bio-Processing and iv) Specialized Manufacturing.

One of the biggest challenges faced by new players looking to enter the enzyme segment is to offer continuous and differentiated solutions as per the requirement that demands real time R&D capability and flexibility in manufacturing. Large manufacturing capacities,



proven capabilities, experienced promoters, customer stickiness, consistency and ability to develop new products in-house are some of the key positives for Advanced Enzyme.

Human Nutrition

Advanced Enzyme provides proprietary enzyme products, probiotics and customised enzyme solutions to various pharmaceutical and nutraceutical companies in the US, India, Europe and RoW. While pharma comprises about 40% of the human healthcare portfolio, nutraceuticals account for the balance. In pharma, the company provides proprietary enzyme products and customised enzyme solutions to various pharmaceutical and nutraceutical companies. Customers use these enzymes as active ingredients in their pharmaceutical and nutraceutical formulations. In nutraceuticals, which are mainly US focused, the company provided enzymatic solutions to players which are into dietary supplements, functional foods such as breakfast cereals, sports drinks, etc. It has also developed technologies for production and application of several probiotics that are live microorganisms, when administered in sufficient amount, confer health benefits to human and animals. Probiotics have now become an integral part of several therapies for digestive disorders and newer applications for treatment of several other diseases are being developed. Post the success of B2C segment in USA, it is also foraying it in India. The company is an advanced stage to launch owned B2C nutraceutical online platform targeting Indian customers We estimate ~10% CAGR in revenue to reach Rs 454cr over FY21-23E.

Animal Nutrition

Company provides enzyme based nutritional supplements for animal nutrition, mainly catering to poultry segment. The product offering enables animals to maximize the nutrients they absorb from the feed, thus helping in reducing feed costs, minimizing animal waste production and accordingly helping to reduce environmental pollution. Similarly, enzymes increase the digestibility of modern animal feeds, which improves feed: gain ratios for ruminants and monogastric animals alike. Some key customers in this business vertical are Godrej Agrovvet, Sneha Farms etc. Like in human healthcare, the company has also developed probiotics for animal healthcare, which has beneficial metabolites and competitive exclusion widely used in animal healthcare.

Enzymes like cellulase and hemicellulase improve the nutritive value of silage and corn/soy-based feeds. Other enzymes like alpha-galactosidase increase the nutritional value of Non-Starch Polysaccharides (NSP). Enzymes may benefit dogs and cats by improving the digestibility of pet foods and strengthening immune system.

Industrial Bio-Processing

Industrial enzymes segment contributed 14% of revenue in FY21. It is divided into two sub-segments i) food and ii) non-food. Food business consists of baking, dairy & cheese processing, fruits & vegetables processing, cereal extraction, brewing, grain processing, protein processing, and oils & fats processing. In Industrial processing segment, Food segment contribute to 65-70% of revenue while the balance from non-food business.



Food Processing:

Enzymes play an essential role in developing more nutritious and appealing food and beverage products to the modern world, more-over enzymes offer significant benefits beyond the scope of traditional alternatives. Company provides proprietary enzyme products and customized enzyme solutions for food processing industries like baking, dairy and cheese processing, fruit and vegetable processing, cereal extraction, brewing, grain processing, protein processing and oils and fats processing. Specialized enzyme products help customers to improve the quality of their products, reduce wastages, optimize resources, produce higher yields, reduction in cost and also to decrease the environmental pollution.

Baking - Company provides enzymatic solutions for replacing chemicals, additives used for whitening of bread. Enzymes give better whiteness, texture, volume, moisture, colour, taste and also increase output by reducing bran resulting in more profits to the baker.

Fruit and vegetable processing - Addition of enzymes helps improve the liberation of juice from the pulp. The company's solutions help increase the yield, clarification of juices and, hence, improve quality of the juice manufactured and its stability.

Dairy and cheese processing - The company offers solutions for enzymes required for production of cheese, yogurt and other dairy products for improving yield, better taste and texture, consistent quality, reduced bitterness and for products containing low levels of lactose.

Starch and grain processing- Various products are manufactured using grains like wheat, corn, malt, barley, etc. It helps increase plant output with improved yields.

Non-Food Processing:

Enzymes are considered as potent biocatalysts for a large number of reactions replacing chemical catalysts. Industrial processing encompasses enzyme solutions to industries like textiles, leather, detergent and pulp & paper. These industries suffer from issues of heavy energy usage in processing the raw material, extensive pollution due to usage of harsh chemicals. Enzymes are considered as potent biocatalysts for a large number of reactions. The biological solutions improve the efficiency of industrial processes by saving energy, water and other raw materials, while reducing waste and effluent load, thereby helping to comply with the pollution norms while reducing the overall process cost. As the pharma industry evolves and the 'China plus one' trend grows, biocatalysts as a segment is more likely to see tailwinds due to greater pickup by domestic players.

Textile processing - The company offers solutions from pre-treatment to finishing in garment and fabric finishing by substituting the basic & specialty chemicals. These enzymes act as substitutes in fabric processing for desizing, scouring, degumming, bio-polishing, print wash and bleach clean-up.



Leather Processing - Company offers eco-friendly solutions for the leather processing industry. For leather processing, it has also developed a patent that enables lime and caustic free leather processing. The use of enzymes in leather processing results in a more environmentally friendly process and improves the quality of the leather (cleaner and stronger surface, softer leather, less spots).
Pulp and paper processing – Its solutions replace chemicals/additives used for whitening/brightness of paper and its lustre and helps in controlling pollution by reducing chemicals used in handling water/wastage.

Overall, we expect the industrial processing business, to grow at ~14% CAGR in FY21-23E to Rs 91 crore, led by incremental opportunity for the company panning out mainly from the food segment besides triggers emanating from non-food opportunities such as enzymes for reducing waste, better energy usage, reducing water usage, etc.

Sticky customer base ensures stable EBIDTA margin

Typically enzymes are a highly regulated industry and this itself serves as an entry barrier and accounts for sticky customer relation. Additionally, enzymes account for a very small proportion of the overall cost of the product and play a key role in the performance of the end product. Buyers avoid switching between different suppliers, which provides better bargaining power to suppliers. Operating margins are expected remain high as it helps customers in increasing the production by using its enzymes and thereby values its product on the basis of benefit accrued to the customer. EBIDTA margin continues to be > 43% in the past 5 years and management guides for 42-48% as broad range for margin in the medium term.

Advanced Enzyme launches health supplements

Advanced Enzyme has recently launched Covid immunity management products after conducting clinical trials on 200 patients. The bundle of ImmunoSEB and Biome Ultra is available on Amazon and is priced at Rs 1,295 (7-day pack) and Rs 2,490 (15-day pack). This is available in India and USA.

The outcome of these clinical trials was the resolution of post-Covid fatigue and reduced discharge time. It is the only clinically approved product in India, which deals with the post-Covid fatigue. It is a fact that muscle fatigue and cognitive disturbances persist in patients after recovery from acute COVID-19 disease. However, there are no specific treatments available globally to treat post COVID fatigue complications.

With an aim to evaluate the efficacy and safety of the health supplements ImmunoSEB (systemic enzyme complex) and ProbioSEB CSC3 (probiotic complex) in patients suffering from COVID-19 induced fatigue, a randomized, multi centric, double blind and placebo controlled trial was conducted in 200 patients suffering from post COVID fatigue symptoms.



In Aug-2021, the company forayed into the E-commerce space with its flagship all natural, chemical-free COVID immunity management bundle - 'ImmunoSEB' and 'Biome ULTRA' in the US and Indian markets.

Acquired additional 15% stake in JC Biotech for Rs 21cr

In Oct 2016, Advanced Enzyme Technologies announced that it has entered into definitive agreements with API maker JC Biotech to acquire 70% stake for Rs 50cr. JC Biotech is the manufacturer of API Serratiopeptidase, an anti-inflammatory enzyme, and has a R&D pipeline of biopharma molecules. In FY21, JC reported revenue of Rs 50.3cr and net profit of Rs 7.7cr. In May-2021, the company acquired additional 15% stake in JC Biotech for Rs 21.1cr. After this transaction, Advanced Enzyme stake in the company stands at 85%. Management aims to ramp up its offering at JC Biotech in order to diversify product offerings in the next 1-2 quarters.

Company acquires 51% stake in SciTech Specialities

In Dec-2020, Advanced Enzyme Technologies said that the company has entered into an agreement to acquire 51% stake for Rs 31.6cr in SciTech Specialities Private Limited (SSPL). Sci-Tech Specialities reported revenue/EBITDA/PAT of Rs 38cr/Rs 9.3cr/Rs 3cr in FY21. SSPL has two manufacturing facilities for nutraceuticals and pharmaceuticals. Regulatory approvals include approvals from FSSAI WHO cGMP and other accreditation from International agencies like Codex, FSMP and GSFS. It has portfolio of 70+ products.

Incorporated in 2007, SSPL specialises in manufacturing effervescent granules and tablets using aqueous granulation technology. The company operates two manufacturing facilities for nutraceuticals and pharmaceuticals, and exports products to 20+ countries. Company derives > 50% of revenue from exports.

Evoxx Technologies

Evoxx enhances product portfolio and offerings for the Pharma Bio-Catalysis and Food Bio-Processing Industries and also brings in certain specialized nutritional carbohydrates. Its expertise helps in strengthening R&D capabilities. Company had entered into agreement to acquire 100% stake in Evoxx for Euro 7.65mn. The industrial biotechnology company Evoxx Technologies GmbH became a part of the Advanced Enzyme in 2018. Evoxx Technologies is an industrial biotech company focused on the development & production of industrial enzymes, as well as a few specialized carbohydrates for nutritional applications. Evoxx reported revenue/EBITDA/PAT of Rs 28.2cr/Rs 5.2cr/1.3cr in FY21.

Enzymes Segment Outlook

Industrial Enzymes have been used in the food & beverages industry for decades now. They are mainly used in baking, brewing and food preservation. Microbial enzymes are increasingly preferred over plant and animal enzymes, owing to their high level of stability. Advanced Enzyme mainly manufactures microbial enzymes. In terms of competition, Novozymes is the global leader in industrial enzymes with a



~45% market share. Household Care is the largest segment and key focus area for Novozymes whereas it also has presence in food and animal nutrition, grain processing etc. AB Enzymes and CHR Hansen are some of the major players that offer an extensive range of enzymes for the food industry, especially in baking and dairy segments to enhance the shelf life of these products. In specialty enzymes Advanced Enzyme Technologies has good share and faces limited competition from Novozymes. In specialized enzymes, the polymerases & nucleases are the largest segments whereas in industrial enzymes, carbohydrase, which is a cost-effective and flexible segment, is widely used. Enzymes segment enjoys very high operating margin compared other specialty ingredients, as it is a highly research-driven segment and also requires significant time investment before getting approvals for registrations or patents. It is sunrise industry and is expected to deliver strong growth on a sustainable basis as industries keep moving away from synthetic solutions.

The global enzymes market size was valued at US\$ 10.6bn in 2020 and is expected to grow at a CAGR of 7.1% from 2020 to 2027. Enzymes play a significant role in development and production of nutritious food and beverage products. Indian enzyme industry was valued at around US\$ 350mn (Rs 2600cr) with a growth rate of 7-8%. The developments in pharmaceuticals and chemical sectors will provide much needed boost to the enzyme market and it is expected that the demand of specialty enzymes will be more than the industrial ones.

Probiotics are live bacteria and yeasts that are good for humans as well as animals, mainly for their digestive systems. Probiotics have become an integral part of functional foods and beverages as it boosts immunity and improves gut functionality. The dietary supplement market is growing in double digits in the US and demand for probiotics is rising because of growing awareness about its health benefits. Apart from F&B, probiotics are increasingly being used in animal nutrition. In animal nutrition, use of enzymes and probiotics has been increased post imposition of ban on antibiotics by many geographies. India Probiotics Market is expected to grow at a CAGR of 13.6% over the forecast period to reach a market size of US\$ 962 million in 2025 from US\$ 448 million in 2019. Global probiotics market is projected to register a CAGR of 8% during the year 2020-2025.

The nutraceuticals market in India is expected to grow from an estimated US\$ 4bn to US\$ 8bn by the end of 2025. Dietary supplements segment constitutes over 65% of the nutraceutical market and is growing at a rate of 17% and is likely to grow at 20-22% per year, especially when preventive health has become focus for all in the current pandemic. Currently, the Indian market imports US\$ 2.7bn worth of nutraceuticals.

About Enzymes

Microorganisms such as bacteria, yeast have been key to produce bread, wine, vinegar, idli batter, curd and other common products. These are all examples of natural enzymes. Enzymes are natural protein molecules produced by all living organisms, functioning as highly specialised catalysts for accelerating the pace of chemical reactions. Enzymes are not living creatures but essential for many living beings' metabolic processes. Enzymes are widely accepted as the origin of the fermentation process. Enzymes are classified by the type of



reaction they catalyse and the substance they act upon. Enzymes function in such a way that they selectively catalyse specific reactions (reaction specificity) and specific materials (substrate specificity). Bromelain is derived from pineapple and papain from papaya. Prominent enzymes found in plants include amylase, protease, cellulase and lipase. Amylase assists the human body with the breakdown and consequent absorption of starch and carbohydrates. Protease helps break down proteins that are present in fish, meat, eggs, poultry, nuts and cheese. The presence of cellulase in plant based sources is significant as it does not occur naturally in the human body whereas lipases assist in the digestion of fats. Enzymes can substitute normal chemical reactions, lower the overall energy consumption and reduce the amount of wastage i.e. the process can be made more “natural” by employing enzymes rather than “artificial” by using chemicals.

Key Risks

Susceptibility to regulatory and compliance-related issues

The company remains susceptible to regulatory changes related to food and drug safety norms. Any noncompliance could lead to product recall, discontinuation of business by the customers and litigation, which may adversely affect the business and financial performance. The company has its own manufacturing facilities in the US, which annually undergo US FDA audit. Although the current USFDA regulations are less stringent towards enzymes providers, any implementation of stricter regulations, licensing procedures can compound the cGMP related adherence thus adding cost and uncertainty.

Growing competition from existing players

Competition in the domestic and international markets would result in pricing pressures and would force the company to reduce the prices of its products in order to retain or attract customers, which may impact its revenues and margins. The company relies on R&D to develop innovative and cost effective products and to increase its product range.

Global enzyme industry is dominated by the likes of Novozymes, Danisco, DSM, BASF, etc. which together account for ~75% of the market. Inability to have a sustained competitive edge against these large players may impact growth outlook of the company.

Customer concentration risk

Company lost its major client in FY21. Despite losing top client in the US which contributed ~US\$ 5.5mn to revenue, US sales grew 12% YoY in FY21. Top-10 clients contributed to 38% of revenue in FY21. It remains a risk if the company loses its top-5/10 client.

Higher RM prices

The company enjoys gross margin to the tune of 79-82%. Higher raw material prices and lack of ability to pass on the same would impact its operating margin.



Exposure to fluctuations in foreign exchange (forex) rates

Exports business accounts for around 55-60% of revenue with key markets being US and Europe. A natural hedge to the extent of imports and the use of pre-shipment and post-shipment credit facilities mitigate the impact of forex rate fluctuations. Any significant fluctuations in the foreign currency could impact on profitability.

Continued investment behind R&D for development of new products

The company needs to continuously invest behind R&D for development of new differentiated solutions. Inability to innovate and scale new products will impact customer stickiness.

High working capital requirement

Gross current assets stood at 230 days as on FY21. This was mainly on the back of diverse manufacturing locations and distribution channels, large portfolios of enzymes, wide variety of customer industries, timely customer service, high export contribution and considerable new product development. The company also undertakes formulation activities at its US facilities as per customer requirement, which entails higher inventory. Cash conversion cycle was at 96 days for FY21. Nevertheless, the company largely funds the requirement through internal accrual, and reliance on debt is minimal.

Broad spread of viral infections like Covid, Bird flu etc. could impact the demand for products of Advanced enzymes.

Company Background

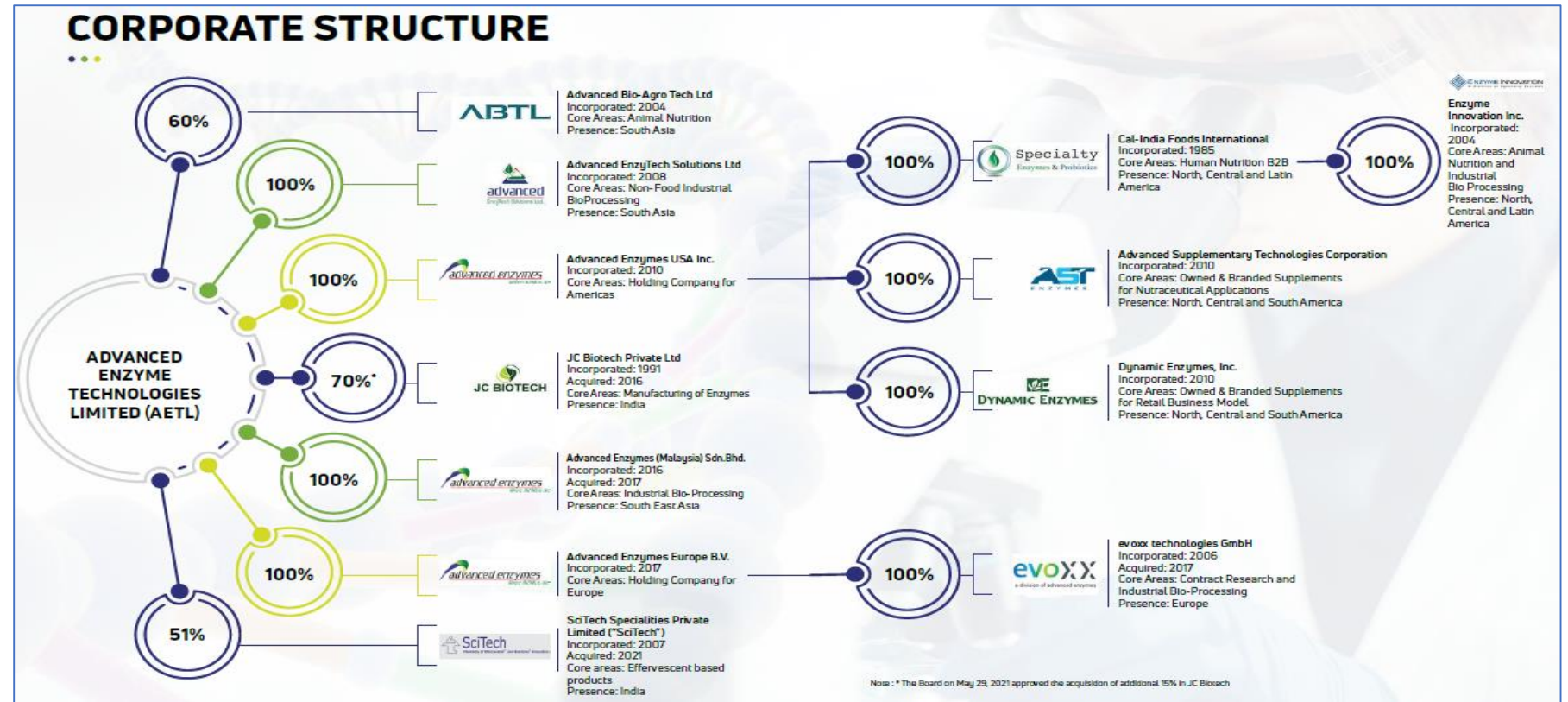
Advanced Enzyme was incorporated in 1989 by Mr. V L Rathi and Mr. C L Rathi as Advanced Biochemicals Pvt Ltd; it was renamed in 2005. The company was listed on the bourses in August 2016. It is one of the largest enzyme companies in India, with competencies across the value chain: R&D, manufacturing and marketing/distribution of enzymes. The company operates two primary business segments: healthcare and nutrition and bioprocessing. It has multiple subsidiaries operating in similar businesses.

It has a product basket of 400+ proprietary products developed from 68 indigenous enzymes and probiotics. Broadly, the business can be divided into three segments - 1) human healthcare 2) animal healthcare and 3) industrial bio-processing. It manufactures enzymes by using natural resources such as plants, fungal, bacterial and animal sources, using environment-friendly biotechnology processes. It offers these products to 700+ customers across 45 countries worldwide. The company owns seven manufacturing facilities and six R&D facilities in India and California, US. Five of the manufacturing facilities are in India. They consist of three integrated fermentations, recovery and formulation facilities at Sinnar (Nashik, Maharashtra), Pithampur (Indore, Madhya Pradesh) and Maddipadu (Andhra Pradesh – JC Biotech), one extraction and recovery facility at Satpur (Nashik, Maharashtra) and one satellite blending, mixing and formulation facility at Vashind (Thane, Maharashtra). The company also owns two blending, mixing and formulation facilities for providing customised enzyme



blends and proprietary enzyme solutions at Chino (California) through its step down subsidiary Cal India Foods International (doing business as specialty enzymes and biotechnologies), which primarily caters to the US and South American markets. R&D facilities are located at Thane, Sinnar, Monheim am Rhein, Germany (Evoxx Technologies) and Chino, California.

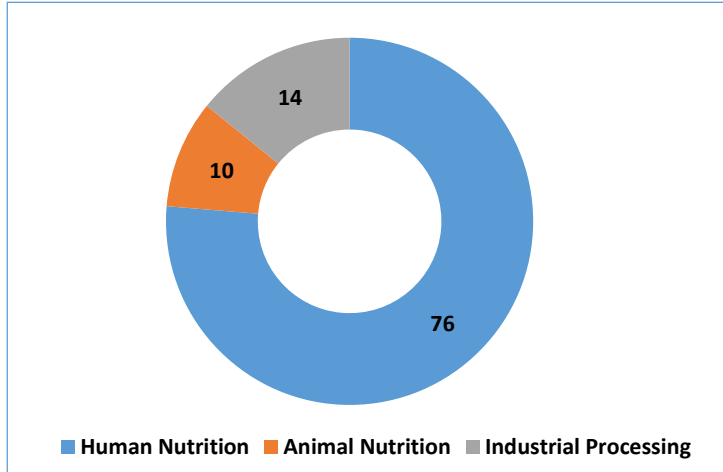
Advanced Bio-Agro Tech Ltd markets animal nutrition enzymes, Advanced EnzyTech Solutions Ltd markets non-food bioprocessing enzymes and Advanced Enzymes USA (Advanced US) is a holding company for the operating and marketing subsidiaries in the US that cater primarily to the human healthcare and nutrition segment. Evoxx Technologies GmbH has presence in Germany and carries out R&D of industrial enzymes and carbohydrate for food processing. JC Biotech Pvt Ltd mainly manufactures anti-inflammatory enzyme. SciTech Specialities Pvt Ltd provides platform for effervescent technology based manufacturing of tablets and sachets on P2P basis.



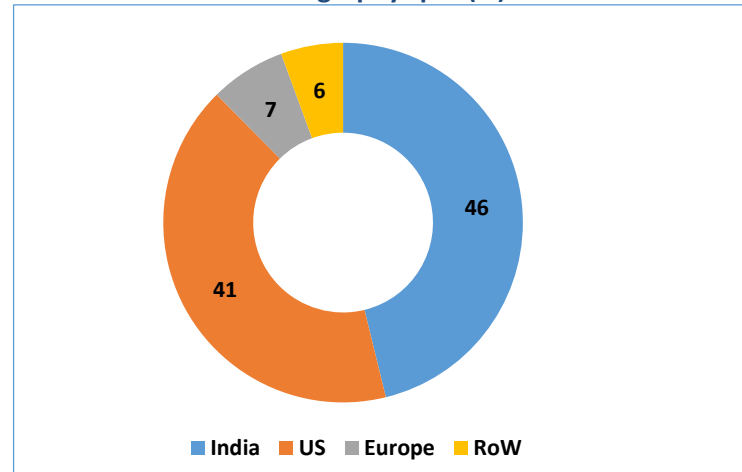


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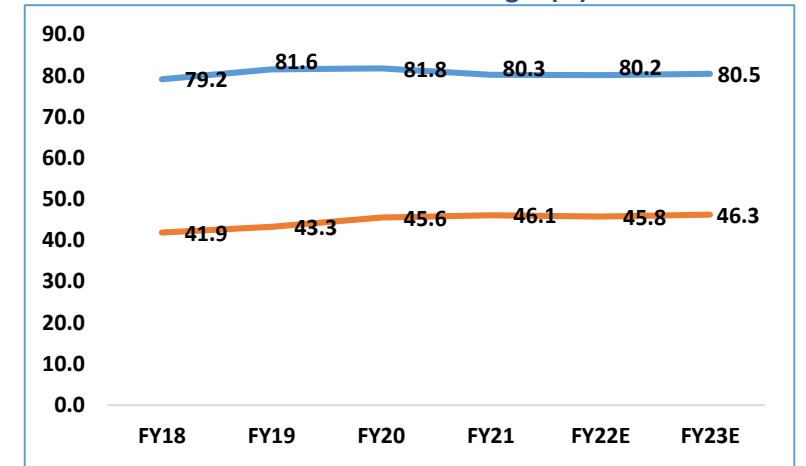
Revenue Mix (%)



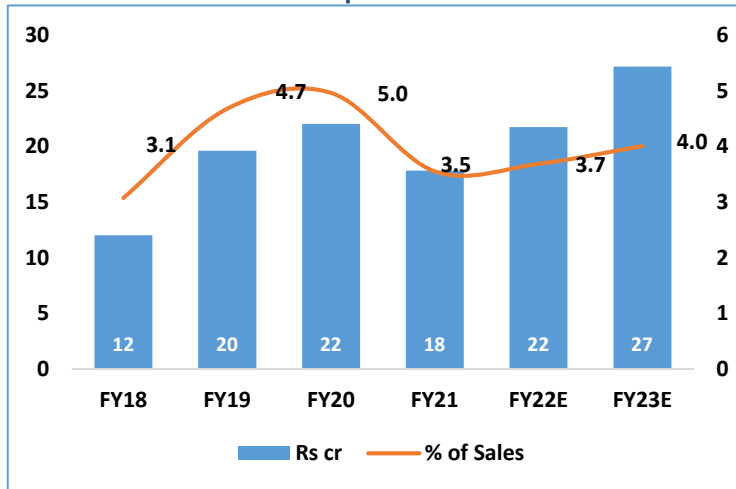
Geography split (%)



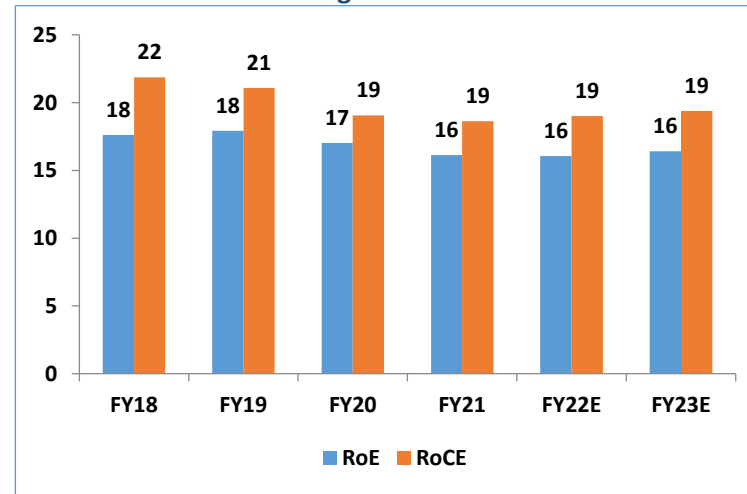
Gross and EBITDA margin (%)



R&D expenses trend



Strong return ratios



Source: Company, HDFC sec Research



Advanced Enzyme Technologies Ltd.

Financials (Consolidated)

Income Statement

(Rs Cr)	FY19	FY20	FY21	FY22E	FY23E
Total Revenue	420	444	502	590	678
Growth (%)	7.3	5.8	13.1	17.5	15
Operating Expenses	238	242	271	320	364
EBITDA	182	202	232	270	314
Growth (%)	10.9	11.3	14.4	16.6	16.2
EBITDA Margin (%)	43.3	45.6	46.1	45.8	46.3
Depreciation	21	26	28	33	36
EBIT	161	177	203	237	278
Other Income	5	6	9	7	9
Interest expenses	4	3	2	1	1
PBT	162	179	210	243	286
Tax	46	46	59	68	77
RPAT	111	129	146	169	201
Growth (%)	23.1	16.5	13.1	15.6	19
EPS	9.9	11.6	13.1	15.1	18

Balance Sheet

As at March	FY19	FY20	FY21	FY22E	FY23E
SOURCE OF FUNDS					
Share Capital	22.3	22.3	22.3	22.3	22.3
Reserves	657	817	948	1109	1295
Shareholders' Funds	679	840	971	1132	1318
Long-Term Debt	7	12	13	9	5
Net Deferred Taxes	15	12	21	22	24
Minority Interest	26	28	60	60	60
Total Source of Funds	727	893	1066	1224	1410
APPLICATION OF FUNDS					
Net Block (incl. CWIP)	166	214	243	294	321
Goodwill	271	294	290	290	290
Intangible Assets	68	65	78	75	72
Long Term Loans & Advances	5	4	7	8	11
Total Non-Current Assets	510	577	617	667	693
Current Investments	111	124	121	133	152
Inventories	77	80	94	108	121
Trade Receivables	59	75	86	103	117
Cash & Equivalents	24	83	198	263	382
Other Current Assets	17	19	17	22	26
Total Current Assets	287	380	516	631	802
Short-Term Borrowings	21	13	5	3	2
Trade Payables	10	10	15	17	23
Other Current Liab & Provisions	31	34	44	48	52
Short-Term Provisions	3	3	4	5	8
Total Current Liabilities	70	64	68	74	85
Net Current Assets	217	316	448	557	717
Total Application of Funds	727	893	1066	1224	1410

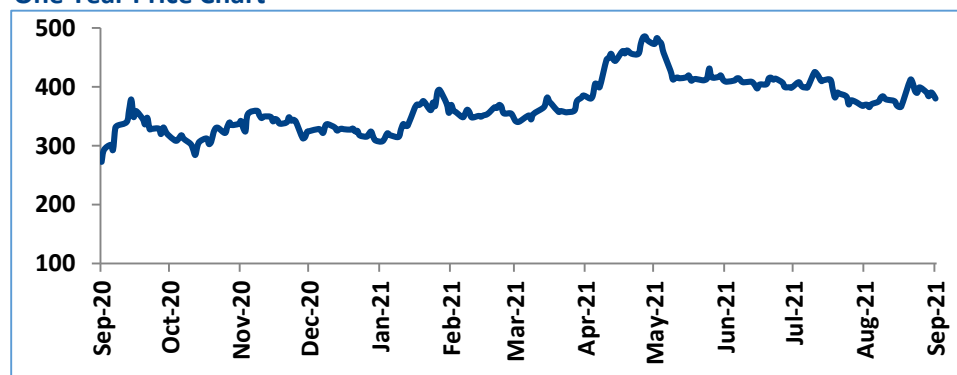
Source: Company, HDFC sec Research



Cash Flow Statement

(Rs Cr)	FY19	FY20	FY21	FY22E	FY23E
Reported PBT	162	179	210	243	286
Non-operating & EO items	-5	-6	-9	-7	-9
Interest Expenses	4	3	2	1	1
Depreciation	21	26	28	33	36
Working Capital Change	-6	-11	-12	-44	-39
Tax Paid	-47	-51	-57	-68	-77
OPERATING CASH FLOW (a)	129	141	163	159	198
Capex	-12	-51	-20	-80	-60
Free Cash Flow	-22	46	79	79	138
Investments	-118	1	-15	-4	-4
Non-operating income	5	6	9	7	9
INVESTING CASH FLOW (b)	-125	-44	-26	-77	-55
Debt Issuance / (Repaid)	-35	-25	-14	-1	1
Interest Expenses	-4	-3	-2	-1	-1
FCFE	-37	53	86	77	138
Share Capital Issuance	4	2	3	0	0
Dividend	-8	-13	-14	-14	-23
FINANCING CASH FLOW (c)	-43	-38	-26	-17	-24
NET CASH FLOW (a+b+c)	-39	58	111	65	119

One Year Price Chart



Key Ratios

	FY19	FY20	FY21	FY22E	FY23E
Profitability (%)					
Gross Margin	81.6	81.8	80.3	80.2	80.5
EBITDA Margin	43.3	45.6	46.1	45.8	46.3
EBIT Margin	38.3	39.8	40.5	40.2	41
APAT Margin	27.6	29.9	30.2	29.7	30.9
RoE	17.9	17	16.1	16.1	16.4
RoCE	21.1	19.1	18.6	19	19.4
Solvency Ratio					
Net Debt/EBITDA (x)	-0.6	-0.9	-1.3	-1.4	-1.7
D/E	0	0	0	0	0
Net D/E	0	0	0	0	0
PER SHARE DATA					
EPS	9.9	11.6	13.1	15.1	18
CEPS	11.8	13.9	15.6	18	21.2
BV	61	75	87	101	118
Dividend	0.6	0.6	0.9	1.2	2
Turnover Ratios (days)					
Debtor days	51	61	63	64	63
Inventory days	66	65	63	67	65
Creditors days	24	20	30	28	32
VALUATION					
P/E	38.5	33	29.2	25.3	21.2
P/BV	6.3	5.1	4.4	3.8	3.2
EV/EBITDA	22.1	19.8	17.3	14.9	12.8
EV / Revenues	9.6	9	8	6.8	5.9
Dividend Payout	6	5.2	6.9	7.9	11.1

Source: Company, HDFC sec Research



HDfC sec Retail Research Rating description

Green Rating stocks

This rating is given to stocks that represent large and established business having track record of decades and good reputation in the industry. They are industry leaders or have significant market share. They have multiple streams of cash flows and/or strong balance sheet to withstand downturn in economic cycle. These stocks offer moderate returns and at the same time are unlikely to suffer severe drawdown in their stock prices. These stocks can be kept as a part of long term portfolio holding, if so desired. These stocks offer low risk and lower reward and are suitable for beginners. They offer stability to the portfolio.

Yellow Rating stocks

This rating is given to stocks that have strong balance sheet and are from relatively stable industries which are likely to remain relevant for long time and unlikely to be affected much by economic or technological disruptions. These stocks have emerged stronger over time but are yet to reach the level of green rating stocks. They offer medium risk, medium return opportunities. Some of these have the potential to attain green rating over time.

Red Rating stocks

This rating is given to emerging companies which are riskier than their established peers. Their share price tends to be volatile though they offer high growth potential. They are susceptible to severe downturn in their industry or in overall economy. Management of these companies need to prove their mettle in handling cyclicity of their business. If they are successful in navigating challenges, the market rewards their shareholders with handsome gains; otherwise their stock prices can take a severe beating. Overall these stocks offer high risk high return opportunities.

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