

# Stock Note

## Advanced Enzyme Technologies Ltd.

Dec 18, 2023





# Advanced Enzyme Technologies Ltd.

Industry	LTP	Recommendation	Base Case Fair Value	Bull Case Fair Value	Time Horizon
Biotechnology	Rs 369	Buy in the band of Rs 369-373 & add more on dips to Rs 330.5	Rs 407.5	Rs 436	2-3 quarters

HDFC Scrip Code	ADVENZEQNR
BSE Code	540025
NSE Code	ADVENZYMES
Bloomberg	ADVENZY IN
CMP Dec 18, 2023	369
Equity Capital (Rs cr)	22.34
Face Value (Rs)	2
Equity Share O/S (cr)	11.17
Market Cap (Rs cr)	4120
Book Value (Rs)	118
Avg. 52 Wk Volumes	487297
52 Week High	379
52 Week Low	225

Share holding Pattern % (Sep, 2023)	
Promoters	45.92
Institutions	28.76
Non Institutions	25.32
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. Company has more than 700 clients spread across 45 countries and a comprehensive product basket of more than 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 70-75% 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 in the coming years. 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. Top-10 customers contributed 24% to sales in FY23 vs 28% in FY22. It has seven R&D units (five in India, one in the US and one in Germany). Launch of new products is expected in the US in H2FY24. More than 25 products are in the pipeline for launches. It is likely to start commercial production of two to four enzymes in Q4FY24. Management guided for double digit growth in sales for FY24. Margin should improve in the coming quarters. H2 FY24 should be better for the US market.

Over the last five years, the company has enhanced fermentation capacity from 360 cubic metre to ~500 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. Company is 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. International sales account for around 54% of the revenue, with the US being a major contributor. Company continues to invest in R&D (5-6% of revenue) and the trend is expected to continue. Enzymes industry has very high entry barriers as it requires strong R&D focus and long gestation period before getting registration approvals for products in the US and EU. Management said that the focus area continues to be on bio-catalysis for API, probiotics and also B2C business in nutraceuticals segment. Company had acquired 51% stake in Sci-Tech specialties (SSPL) for ~Rs 32cr in Dec-2020. Thus, the company has new segment called specialized manufacturing business. Over the last three years, the company registered low single digit growth in revenue and steady decline in operating margin due to slowdown in consumption, higher input costs and higher freight costs and power & fuel costs. Management guided for 15% growth for FY24 along with margin improvement. Company is likely to post ~15% CAGR in revenue along with steady expansion in operating margin in the coming years.



### 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 future growth pillars comprise of continued investment in R&D, expansion of its geographic presence and inorganic growth opportunities. We forecast revenue/EBITDA/PAT CAGR of 13.5%/21%/22% over FY23-25E. It would be led by strong growth across all segments. Company has net cash & equivalents of around Rs 440cr as on Sep-2023. The company continues to look for inorganic growth opportunities impact of which is not included in our assumptions. The company witnessed continued challenges on logistics and input cost. EBITDA margin declined due to higher raw material cost and higher other expenses comprising consulting charges, promotional activities, power & fuel cost, payroll expense and freight and forwarding expenses. We expect margin to remain in the 31-34% range over FY23-25E. 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. The stock has traded at 26-28x 12-months forward average P/E in the last 5 years. We feel investors can buy the stock in the band of Rs 369-373 and add more on dips to Rs 330.5 (23.5x FY25E EPS) for base case target of Rs 407.5 (29x FY25E EPS) and bull case target of Rs 436 (31x FY25E EPS) over the next 2-3 quarters.

### Financial Summary

Particulars (Rs cr)	Q2FY24	Q2FY23	YoY (%)	Q1FY24	QoQ (%)	FY19	FY20	FY21	FY22	FY23	FY24E	FY25E
Total Revenues	158	139	13.8	147	7.1	420	444	502	529	541	607	695
EBITDA	51	40	29.5	44	16.6	182	202	232	201	156	193	229
Depreciation	9	9	-1.1	9	1.2	21	26	28	35	35	37	40
Other Income	6	4	56.4	7	-9.0	5	6	9	6	26	21	25
Interest Cost	1	1	33.3	1	23.1	4	3	2	2	2	3	3
Tax	13	8	60.8	12	5.8	46	46	59	47	37	46	55
PAT	34	26	31.3	29	19.4	111	129	146	120	106	129	157
EPS (Rs)						9.9	11.6	13.1	10.7	9.4	11.6	14.1
RoE (%)						17.9	17.0	16.2	11.6	9.1	10.1	11.4
P/E (x)						37.3	32.0	28.3	34.6	39.2	32.0	26.3
EV/EBITDA (x)						21.3	19.1	16.7	19.2	24.8	20.1	16.9

(Source: Company, HDFC sec)

### Q2FY24 result update

Revenue for the quarter grew 13.8% YoY at Rs 157.8cr. EBITDA margin improved 390bps YoY at 32.5%. EBITDA increased 29.2% YoY at Rs 51.3cr. Net profit increased 31.3% YoY at Rs 34.4cr.



Human Nutrition sales grew 13% YoY at Rs 106cr. Animal Nutrition sales remained flat at Rs 17.3cr. Bio-processing revenue grew 26% YoY at Rs 24.3cr.

EPS for the quarter stood at Rs 3.08 and it stood at Rs 5.66 for H1 FY24.

US business was under pressure and the management expects a recovery in H2FY24. While energy costs remain high, moderation in key RM prices, freight, etc. should help normalize the margin to an extent going forward.

Advanced Enzyme continues to spend aggressively on R&D as FY23 spends were at 5.3% of sales vs 4.5% in FY22. Top-10 customers contributed 24% to topline in FY23 vs 28% in FY22. Recovery in the Human Nutrition segment should coincide with significant EBITDA margin expansion. Overall for FY24, the management has guided for 14-15% growth in sales and improvement in margin as compared to FY23.

### Concall Highlights

- Due to top line improvement and input cost stabilization, operating margin witnessed some improvement and is expected to be better going forward.
- Bio-Processing segment continued to see good growth trajectory with around 26% rise on YoY basis and 8% on a sequential basis, contributing 15% of the revenue. The part of Food business grew by 43%, and declined 21% on non-food business on a year-on-year basis.
- The largest anti-inflammatory enzyme sales stood at Rs 71.6 crore as compared to Rs 63 crore in the previous year. It contributed to 23% in the current half year, whereas the contribution was 24% in the last year's first half.
- Top 10 customers contributed 27% to total revenue in H1 FY24, and it was almost similar at 27%, in the last year's first half year. Top-10 products contributed to 48% in the first half year, and it contributed 45% in the last year's first half year.
- Capacity utilization stood at ~70% in the quarter. Depending upon revenue mix, the company can achieve sales of Rs 800-900 crore with current capacity.
- As US business witness better growth, overall margin should improve, however it is difficult to reach margin of ~40%.
- Company has strong presence in the domestic market and holds about 80% market share in the products segment.
- US market is different from Indian market. In the Indian markets, the company does not operate exactly into the blend area, but more into the API area. It expects better growth in the coming quarters.
- JC Biotech reported sales of Rs 30.8 crore in H1 FY24 as compared to Rs 28.3 crore in H1 FY23. EBITDA stood at Rs 2.6 crore as compared to Rs 3.3 crore in the previous year.
  - Sci-Tech Specialities reported revenue of Rs 20 crore as against Rs 14.8 crore in H1 FY23. EBITDA stood at Rs 2.2 crore in the current half year as compared to EBITDA loss of Rs 0.5 crore in the previous half year.



- Change in product mix and lower sales of Nutraceuticals resulted into lower margins in the past few quarters.
- Global probiotic market is growing at CAGR of 7.5% while global enzyme market is growing at CAGR of ~5%. Company looks to outperform overall market growth in the medium term.
- Human nutrition segment contributed around 67% during the first half of total revenue. It grew 18% during the first half from Rs 174.5 crore in H1FY23 to Rs 205.4 crore in H1FY24.
- Animal nutrition segment contributed around 11% during the first half of total revenue. It grew 1% during the first half at Rs 33.1 crore.
- Industrial Bio Processing segment contributed about 15% during the first half of FY24. This segment grew 24% on YoY basis to Rs 46.6 crore in H1 FY24 from Rs 37.6 crore in H1 FY23. In this segment, food business contributed 12% to the overall revenue and stood at Rs 38.6 crore while the Non-Food business contributed 3% and stood at Rs 8 crore during the year. The food business grew by 35% while the Non-food business registered a de-growth of 10% on YoY basis.
- Guided for double digit growth in sales for FY24. Margin should improve in the coming quarters.
- Q4 remains best quarter due to year end/seasonality. Animal health segment to remain flat in FY24.
- Human nutrition and nutraceutical segment should see better growth in the medium term.
- H2FY24 should be better for the US market. India business should grow at 20% for the year.
- Company has total 7 dossiers filed with US FDA and out of that 2 are under evaluation. Company guided for ~6% of sales in R&D for FY24.
- Raw material prices have stabilized, but still power and fuel cost remain on higher side. This would settle down in the coming quarters. The growth was driven by human nutrition business and bio-processing business.
- The sale of largest product, anti-inflammatory enzyme stood at about 24% of sales or Rs 129 crore in FY23. For FY23, top-10 customers' contributed to 24% of sales.
- It is better to judge business overall year on year basis; however quarterly fluctuations could be there. Quarterly comparison not right way to measure performance.
- H2FY24 should be better for the US market. It enjoys better margin than India and RoW markets. India business EBITDA margin stands at about 28-30%.
- The biocatalyst is the area like where it is developing the solutions. Some of the enzymes are on a trial scale probably of the business may start into the end of this year.
- Company is building a huge building of about 100,000 square feet (new R&D), which is a 5-floor building. This is likely to get completed by Dec-2024.
- Probiotics sales declined ~18% YoY at Rs 20 crore for FY23. Company guided for 20%+ growth in sales for FY24.



## FY23 Highlights

- Total revenue grew 2% YoY at Rs 540.6 crore. International sales declined 4% YoY at Rs 285 crore. Domestic sales increased 9% YoY at Rs 255.7 crore. During FY23, domestic sales accounted for 47% of sales, up from 44% in FY22. In FY23, International sales accounted for 53% vs 56% in FY22.
- US business in terms of dollars declined by 15%, while in rupee terms, it was down 1% for the year. US business has better margin profile. As it sees better growth, overall margin and profitability to improve in the coming years.
- B2C segment revenue for FY23 stood at Rs 41.2 crore as compared to Rs 38.3 crore. Top 10 customers contributed about 24% of sales as compared to 28% during FY22. The largest selling product, anti-inflammatory enzyme sales stood at Rs 104 crore in FY22 (28% of sales) vs. Rs 113.5 crore in FY21. It was at Rs 129 crore in FY23.
- The decline in overall margin was due to fluctuation in input material prices and elevated fuel costs, which resulted in a higher operating costs during the year. Subdued consumer demand across the globe, elevated input costs, coupled with lower international sales, in particular in the US market, affected overall margin during FY23.
- Employee cost has gone up mainly because of the annual increment given by the company and all its subsidiaries. And there is another element of the Forex fluctuation. Because rupee has depreciated by about 8% during this year. So that also includes an element of Fx fluctuation in FY23.
- For FY23, human nutrition business declined 1%. Pharma API in domestic markets and nutrition in international markets primarily supported the numbers in human nutrition. There is softness in the probiotics business and demand remains subdued in the domestic as well as in the international markets.
- The company has more than 700 clients spread across 45 countries and a comprehensive product basket of more than 68 enzymes and probiotics and over 400 proprietary products.
- The real competition with Novozymes is only in the food area. And that is the area where AEL is really competing with Novozymes. The rest of the areas, there is less competition. Advanced Enzyme is very small compared to Novozymes. Novozymes' share is more than \$1 billion and the company is selling hardly US\$ 60-70 million. So, there is a lot of opportunity and a lot of gray areas for the company.



- There are more than 25 products, which are under pipeline and 4 Enzyme are under commercialization.
- In the human nutraceutical side, it is working on these two areas, in this area of sugar management and weight loss areas. Company is also working the R&D for new products. So, those are the focus areas in the human nutraceutical side on the R&D.
- It is working on a lot of enzymes on the food area and also the company is working a lot of enzymes in the biocatalyst area and there are some different products and different ways how does it launch into the animal feed area. But major focus which is going on the new products side is on the human nutraceutical and food areas and Bio-catalysis.
- America is like more focused on the nutraceutical area while in Europe, major sales come from the food segment.
- Management commented that supply chain issue has been resolved and raw material prices have now normalized.
- R&D cost is likely to remain at an existing range of 5-6% of sales in coming years.
- Launch of new products is expected in the US in H2FY24. More than 25 products are in the pipeline for launches. It is likely to start commercial production of two to four enzymes in FY24. It expects a lot of traction in sugar management and weight loss products as a part of its expansion strategy in the US.
- Company introduced Wellfa B2C, a consumer brand that aims to enhance the quality of life for individuals, through health and wellness products. Wellfa provides a range of resources and tools, which are personalised to meet the diverse needs and preferences of consumers. By offering products, such as immune support, skin care, gut health, metabolism boosters, detox solutions, weight management aids, stress relief, and respiratory health products.
- Over the past five years, the company has demonstrated a track record of successful inorganic growth through three internal accrual-based acquisitions, while maintaining its status as a zero-debt company. This is aimed at further strengthening its front-end marketing capabilities, expanding its geographic reach, broadening its product portfolio and enhancing its B2C business. Though the acquisitions have been largely small in nature, but they have done fairly well after the acquisition by the company.



## 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 4-5% 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.

Advanced Enzyme operates nine manufacturing facilities globally, including four in India, one in the US, and four located in different geographical regions. These facilities are equipped with large fermentation, recovery, purification, and formulation capabilities. They cater to a range of industries, including animal nutrition, nutraceuticals, pharmaceuticals, poultry products, cosmetics, and other specialty products. The facilities are certified with ISO and WHO cGMP, with the US-based facilities focusing on the blending and mixing of enzymes and probiotics.

Company serves a diverse range of industries and verticals, such as human nutrition, animal nutrition, and bioprocessing. Company is actively advocating in favour of enzyme-based processes as a sustainable and eco-friendly alternative to conventional thermal, mechanical, and chemical methods.

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. Company has nine manufacturing facilities and seven R&D Centers. Company has seven R&D centres and nine manufacturing facilities across India and the US, with total fermentation capacity of 500 cubic metre.





# Advanced Enzyme Technologies Ltd.

**9**  
Manufacturing Units  
India - 7 USA - 2

**7**  
R&D Units  
India - 5 | USA - 1 |  
Germany - 1

**1st**  
Indian enzyme  
company

**2nd**  
Highest market share  
in India

**2nd**  
Listed integrated  
enzyme player globally

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**68+**  
Enzymes  
& Probiotics

**400+**  
Proprietary  
Products

**700+**  
Customers  
Worldwide

**45+**  
Countries  
Worldwide Presence

**750+**  
Employees

**13\***  
Patents

**13#**  
Food Enzyme  
Dossiers  
filed with EFSA

**7\*\***  
GRAS Dossier  
evaluated by US FDA

**500**  
m<sup>3</sup> Fermentation  
Capacity

**25+**  
Years of  
Fermentation  
Experience

**1##**  
Novel Food Dossier  
filed with EFSA

Note: Facts & Figures as on November, 2023  
 \* Patents includes the filed applications  
 # Food Dossier filed with EFSA, out of which positive R&D opinion is received for 9 Dossiers & 4 are under evaluation  
 \*\* No question letter received for 5 Dossier, another 2 are under evaluation  
 ## Novel food dossier has been filed with EFSA is under evaluation  
 All the numbers are as per IndAs  
 Source: Freedonia

	Focus Area	Opportunity Size	Addressable market for AETL over next 5 years**	AETL's Current Share of Revenue	
				FY23	FY22
	Human Nutrition	\$ 400 mn	\$ 200 mn	\$ 38.8 mn, 58%	\$ 41.9 mn, 59%
	Bio-Catalysis	\$ 60 mn	\$ 30 mn*	\$ 2.9 mn, 4%	\$ 3.1 mn, 4%
	Baking	\$ 300 mn	\$ 30 mn	\$ 7.4 mn, 11%	\$ 6.9 mn <sup>#</sup> , 10%
	Animal Nutrition	\$ 1.02 bn	\$ 40 mn	\$ 8.8 mn, 13%	\$ 7.5 mn, 11%
	Probiotics	\$ 48 bn	Majority of the market is untapped, so this a huge opportunity	\$ 2.5 mn, 4%	\$ 3.2 mn, 5%

\*\* Addressable market is as per Company's own estimates  
 \* As of now we are considering the India only opportunity for Bio-catalysis  
 # Includes other food-processing enzymes  
 Source: ResearchandMarkets Report, 2019-20



## 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 40-50% 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 provides 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 has also forayed in the domestic market.

Company already has B2C business in the US. The same is being replicated in India and the company launched in Dec-2021 (advancedenzymedirect.com). Apart from that, the company sells products through Amazon and IndiaMart.

Its top-selling anti-inflammatory enzyme, serratiopeptidase, contributed 24% of its total revenue, or sales of Rs 129 crore in FY23. B2C business in the human nutrition division contributed to Rs 38.3 crore in FY23. It was at Rs 41 crore in FY22 and Rs 43 crore in FY21.

Overall, AETL provides a diverse range of nutritional products that cater to global consumers, including those in India, North America, Asia (excluding India), and Europe.

The segment revenue remained flat YoY at Rs 356cr in FY23. We estimate 13% CAGR in revenue to reach Rs 511cr over FY23-26E.

## 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 Agrovet, 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. Animals also require adequate nutrition and a balanced diet to foster growth, development, and reproduction and bolster their immune systems to combat infections. Company offers enzyme-based feed additives for animal nutrition, which provide animals with all the essential nutrients that facilitate digestion.



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. Revenue grew 27% YoY at Rs 71cr in FY23. We estimate 13% CAGR in revenue over FY23-26E.

### **Industrial Bio Processing**

Bioprocessing, which involves utilising living organisms and their components to create new products, represents a natural, secure, and efficacious means of manufacturing.

Company's industrial bioprocessing is a specialized branch of chemical engineering focusing on the development and production of various products in areas such as agriculture, and polymers, among others.

### **Non-Food Processing**

Enzymes act as a prevailing biocatalyst in majority of the reactions and help in boosting the process thereby saving time. Your Company offers a wide range of eco-friendly solutions for a variety of industries such as textiles, leather, detergents, and paper and pulp that are used in manufacturing a wide range of products. This helps in reducing energy consumption, waste water, and overall waste.

### **Food Processing**

Enzymes are a natural, safe, and effective way to manufacture food & beverage products. They help manufacturers improve the quality of the food products and provide consumers with healthy options that have a high nutritional value.

### **Sticky customer base ensures stable EBIDTA margin**

Enzymes are a highly regulated industry and that serves as an entry barrier and leads to 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 margin 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 remained 40-45% during FY18-21 while the margin witnessed continuous decline on the back of higher RM prices and sharp increase in power & fuel expenses. Management guided for significant improvement in margin over the next 2-3 years.



### **Raised its stake in JC biotech to 89.83%**

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 May-2021, the company acquired additional 15% stake in JC Biotech for Rs 21.1cr. In Jan-2023, the company bought additional 4.83% stake for Rs 6.8cr.

After this transaction, Advanced Enzyme stake in the company stands at 89.83%. Management aims to ramp up its offering at JC Biotech in order to diversify product offerings in the next 12-24 months. JC Biotech is more like supplying all the materials to Advanced Enzyme. Increased capacity in JC Biotech would help the company. So, there is not real sale which is going directly to the customer side.

### **Company had acquired 51% stake in SciTech Specialities**

In Dec-2020, Advanced Enzyme Technologies had entered into an agreement to acquire 51% stake for Rs 31.6cr in SciTech Specialities Private Limited (SSPL). 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. Company derives > 50% of revenue from exports.

### **Challenges faced in the past 2 years**

#### **Higher Input Cost**

Due to inflationary factors, input prices experienced significant increase in the last 12-18 months. Raw material prices, including those of soya, edible oil, and solvents like glycerine, phosphorus salts, and lithium have risen between 3-4x, mainly due to supply chain disruption and increased logistic costs. These factors have also affected procurement costs in domestic markets. In addition, fuel prices including that of coal, have also surged by 2-3x, adding to the rise in manufacturing costs.

#### **Supply Chain and Logistics**

Global trade has suffered due to supply chain disruptions and a shortage of truckers in the US, UK, and Europe. Freight rates increased drastically. The surge in fuel and freight costs has also impacted the overall costs for companies, leading to a short term impact on margin.

#### **Sluggish Consumption**

The global market for enzymes has been facing challenges due to sluggish consumption in several industries. Company's products find applications in various industries, including food and beverages, textiles, animal feed, and biofuels. However, the COVID-19 pandemic has significantly impacted demand for these enzymes, as several industries were forced to shut down or operate at reduced capacity. Customers had over procured inventories and that refrained them from ordering new supplies.



Moreover, supply chain disruptions and transportation restrictions have also affected the availability of raw materials and finished products. Despite these challenges, increasing demand for sustainable and eco-friendly products would drive the growth of the enzymes market in the long-run.

### **Inflation**

Global inflation in the past year has risen more than anticipated in major economies like the US and Europe, causing a tightening of financial conditions. With this, there has been a notable shift in consumer preference towards prioritising basic survival needs over purchasing supplements, particularly in developed countries. China's economy hit harder than expected by COVID-19 pandemic outbreaks, while negative spillovers from the war in Ukraine further impacted the situation.

### **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.

### **Industry Outlook**

Enzymes act as biocatalysts, modifying the rate of chemical reactions in metabolic processes. Due to their diverse capabilities, enzymes are high-in-demand across various industries worldwide. These industries include pharmaceutical & biotechnology, human healthcare, nutritional food, dairy processing, fruit & vegetable processing, grain processing, biofuels, and biomass processing, among others. The Global Industrial Enzymes market is expected to register a 6-7% CAGR during forecast period of 2022-2030, and is predicted to reach US\$ 10.8 billion in 2030.

The Indian enzyme market was estimated to be worth US\$ 370 million in 2022. It is projected to accelerate and reach US\$ 670 million by 2030 growing at 7.7% CAGR during the forecast period (2023-30). This increase can be attributed to the significant growth of the



healthcare, food & beverage, and chemical sectors. Rapid population growth and rising consumer expenditure are also driving market growth across various industries. These include human health care and nutrition, animal nutrition, baking, fruit & vegetable processing, brewing & malting, grain processing, protein modification, dairy processing, specialty applications, textile processing, leather processing, paper & pulp processing, biofuels, biomass processing, and biocatalysis.

As a result, there is an expansion in enzyme demand. In addition, as people become more aware of the significance of digestive health, the demand for enzyme supplements has increased. These supplements facilitate digestion and support gut health, which is becoming a crucial concern for many individuals. The Indian industrial food enzyme market is concentrated on bakery, confectionery, dairy, frozen desserts, meat, poultry, seafood products, and beverages, among others.

The bakery sector uses the highest quantity of enzymes across the nation. Thus, the rise in demand for processed foods, including bakery items, has consistently contributed to the rise in demand for enzyme applications due to the expansion and convenience of food retail chains.

The Food Safety and Standards Authority of India (FSSAI) defines nutraceutical as a type of food product that offers physiological benefits and supports overall health. As a result of its perceived health benefits, the demand for nutraceuticals is on the rise, leading to the emergence of numerous companies producing these products. However, in order to ensure their safety and effectiveness in the Indian market, FSSAI has established regulatory guidelines for the approval of nutraceuticals.

### **Nutraceuticals**

The Indian Nutraceutical market was valued at US\$ 5.4 billion in 2022, and is expected to register CAGR of 12% during 2023-30. The rising demand for functional food, which have certain health and medical benefits, is driving growth in the Indian market for plant based nutraceuticals. This can be attributed to the growing consumer preference for healthy diets in recent years. The growing demand for natural and safe health supplements, coupled with increasing awareness about the benefits of nutraceuticals for overall health and wellness has contributed to growth of the market. The demand for high-quality nutraceutical products in India has been further boosted by a segment of Indian consumers who are increasingly prioritising product quality and effectiveness over pricing. Rising veganism and an increasing vegetarian population in the country are driving the adoption of plant-based products. This trend is being observed in a variety of industries, including nutraceuticals. The buoyant prospects of the Indian market have attracted the attention of global nutraceutical companies as well, leading to an increased focus on the country.



## Key Risks

### **Susceptibility to regulatory and compliance-related issues**

The company remains susceptible to regulatory changes related to food and drug safety norms. Any non-compliance could lead to product recall, discontinuation of business by the customers and litigation, which may adversely affect the business and financial performance. Although, US FDA regulations are less stringent towards enzymes providers, any implementation of stricter regulations, licensing procedures could impact the overall performance.

### **Growing competition from existing players**

Competition in the domestic and international markets would result in pricing pressures and could force the company to reduce the prices of its products in order to retain or attract customers, which may impact its revenue and margin. In FY22 and FY23, operating margin remained weak on higher RM prices and other costs such as power & fuel and freight costs. 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**

Top-10 clients contributed to 24% of revenue in FY23. It remains a risk if the company loses its top-5/10 clients.

### **Higher RM prices**

The company enjoys gross margin to the tune of 70-75%. Higher raw material prices and lack of ability to pass on would impact its operating margin and profitability.

### **Exposure to fluctuations in foreign exchange**

Exports, mainly to the US, account for most of the revenue (~40% of sales in FY23). 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. The company hedges around 30% of its net exposure.

## Company Background

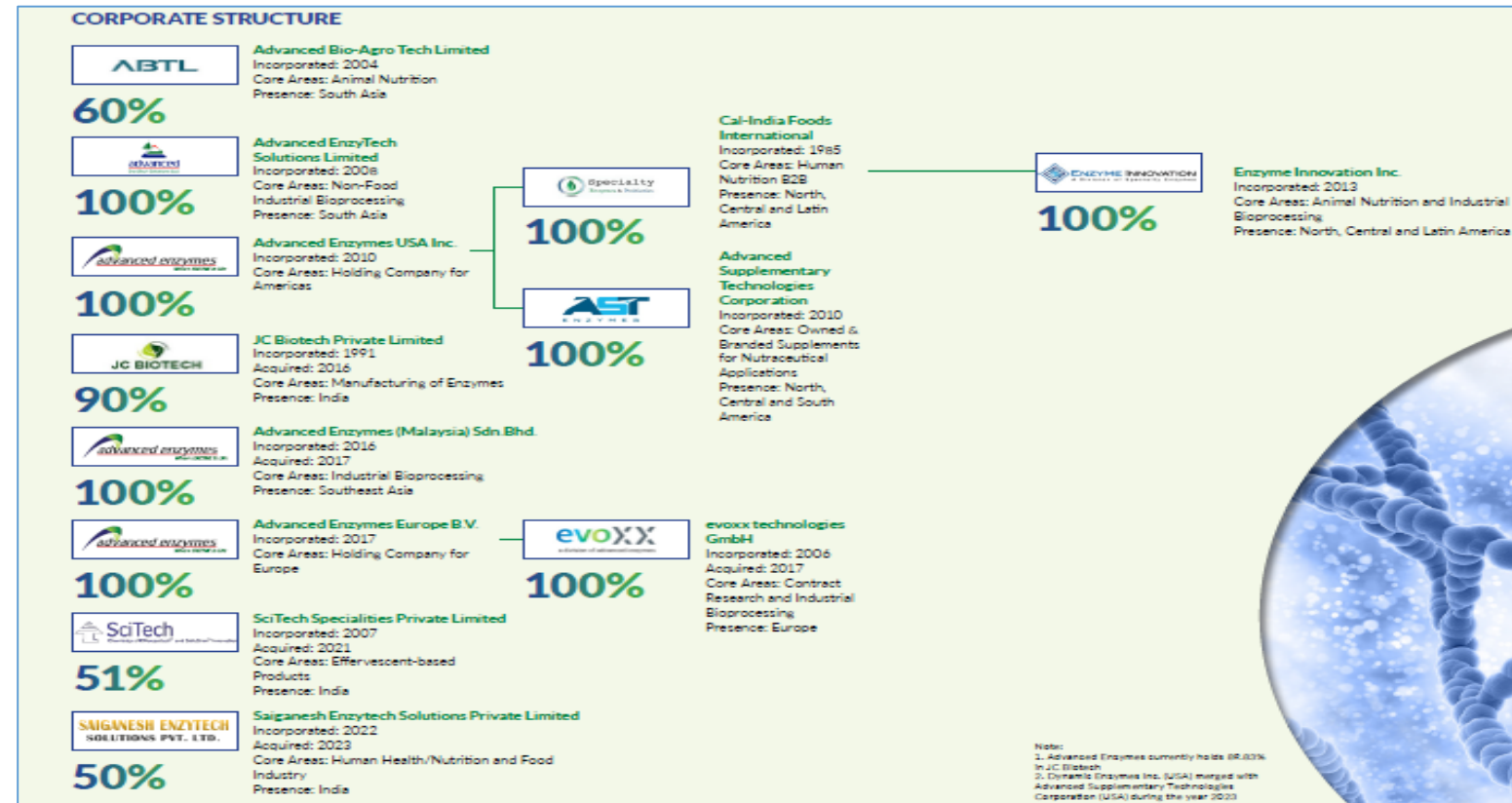
Advanced Enzyme was incorporated in 1989 by Mr. V L Rathi and Mr. C L Rathi as Advanced Biochemicals Pvt Ltd; it was renamed in 2005. It is one of the largest enzyme companies in India, with competencies across the value chain: R&D, manufacturing and marketing/distribution of enzymes. It has multiple operating subsidiaries in India and abroad. Company operates into mainly four



# Advanced Enzyme Technologies Ltd.

segments i) Human Nutrition (66% of sales) ii) Animal Nutrition (13%) iii) Industrial Bio-Processing (15% of sales) and iv) Specialized Manufacturing (6%).

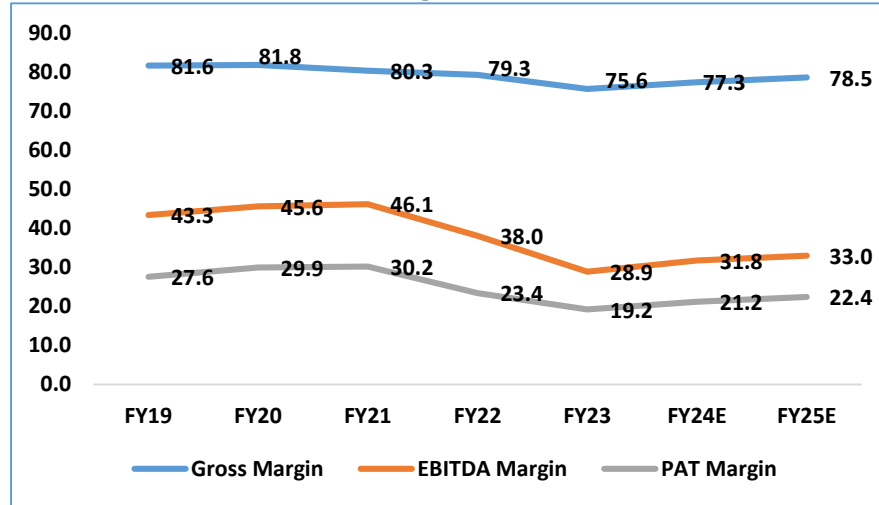
Advanced Bio-Agro Tech Ltd markets animal nutrition enzymes, Advanced EnzyTech Solutions Ltd markets non-food bioprocessing enzymes and Advanced Enzymes USA (Advanced US) is a holding company for the operating and marketing subsidiaries in the US that cater primarily to the human healthcare and nutrition 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. Over the last six quarters, promoter holding has come down to 45.92% (Sep-2023) from 52.7% (Mar-2022). FII holding has increased from 18% in Mar-2022 to 22.3% as on Sep-2023.



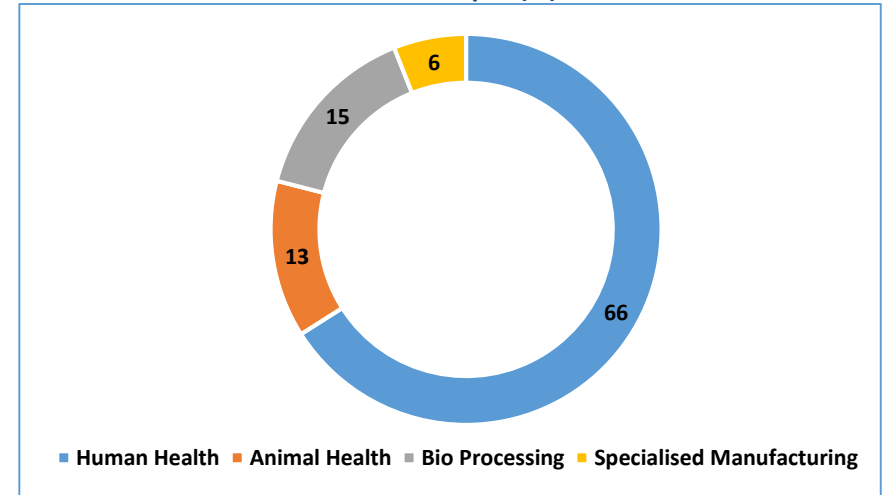




Margin Trend

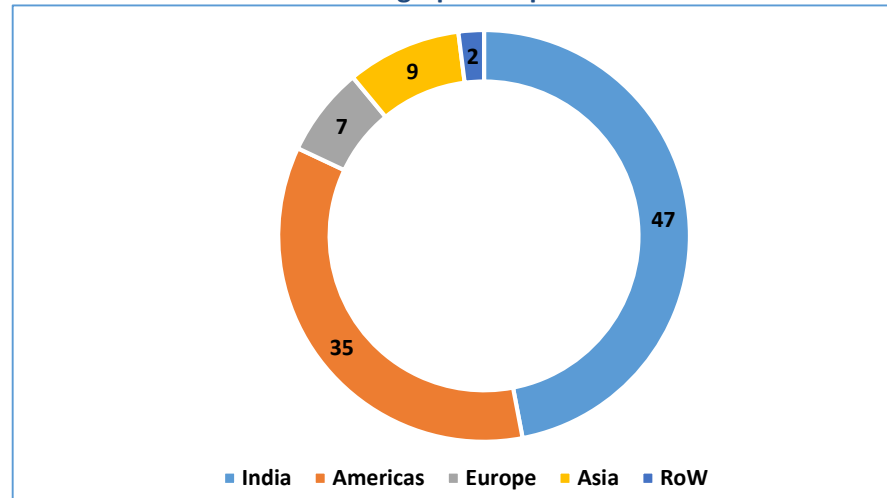


Revenue Split (%)

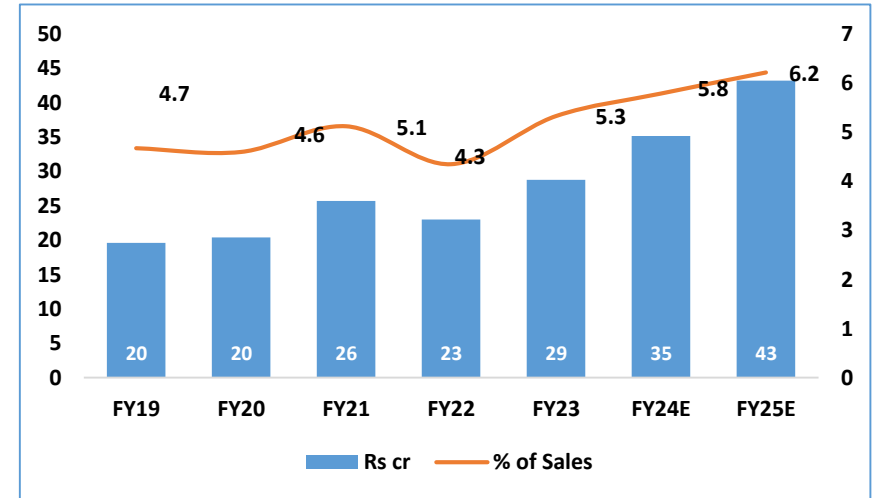


(Source: Company, HDFC sec)

Geographical Split



R&D Trend



(Source: Company, HDFC sec)



# Advanced Enzyme Technologies Ltd.

## Financials (Consolidated)

### Income Statement

(Rs Cr)	FY20	FY21	FY22	FY23	FY24E	FY25E
Net Revenue	444	502	529	541	607	695
Growth (%)	5.8	13.1	5.4	2.1	12.3	14.5
Operating Expenses	242	271	328	384	414	466
<b>EBITDA</b>	<b>202</b>	<b>232</b>	<b>201</b>	<b>156</b>	<b>193</b>	<b>229</b>
Growth (%)	11.3	14.4	-13.0	-22.4	23.5	18.9
EBITDA Margin (%)	45.6	46.1	38.0	28.9	31.8	33.0
Depreciation	26	28	35	35	37	40
EBIT	177	203	166	121	156	189
Other Income	6	9	6	26	21	25
Interest expenses	3	2	2	2	3	3
PBT	179	210	171	140	174	210
Tax	46	59	47	37	46	55
<b>RPAT</b>	<b>129</b>	<b>146</b>	<b>120</b>	<b>106</b>	<b>129</b>	<b>157</b>
Growth (%)	16.5	13.2	-18.2	-11.8	22.6	21.4
EPS	11.6	13.1	10.7	9.4	11.6	14.1

### Balance Sheet

As at March	FY20	FY21	FY22	FY23	FY24E	FY25E
<b>SOURCE OF FUNDS</b>						
Share Capital	22.3	22.3	22.3	22.3	22.3	22.3
Reserves	817	948	1066	1213	1301	1405
<b>Shareholders' Funds</b>	<b>840</b>	<b>971</b>	<b>1089</b>	<b>1235</b>	<b>1323</b>	<b>1427</b>
Long Term Debt	12	10	8	8	5	3
Net Deferred Taxes	12	22	19	15	16	18
Long Term Provisions & Others	1	5	19	15	18	21
Minority Interest	28	62	52	49	49	49
<b>Total Source of Funds</b>	<b>893</b>	<b>1070</b>	<b>1186</b>	<b>1323</b>	<b>1413</b>	<b>1520</b>
<b>APPLICATION OF FUNDS</b>						
Net Block (incl. CWIP)	214	251	272	289	322	367
Goodwill	294	289	296	321	321	321
Intangible Assets	65	74	66	61	57	50
Long Term Loans & Advances	4	7	9	7	10	13
<b>Total Non-Current Assets</b>	<b>577</b>	<b>622</b>	<b>643</b>	<b>678</b>	<b>709</b>	<b>751</b>
Current Investments	124	121	102	360	368	387
Inventories	80	94	121	124	113	131
Trade Receivables	75	86	88	100	107	123
Short term Loans & Advances	0	0	0	0	1	1
Cash & Equivalent	83	198	274	124	177	198
Other Current Assets	19	16	19	14	18	20
<b>Total Current Assets</b>	<b>380</b>	<b>516</b>	<b>604</b>	<b>722</b>	<b>784</b>	<b>862</b>
Short-Term Borrowings	13	5	3	5	2	3
Trade Payables	10	15	18	24	26	30
Other Current Liab & Provisions	34	44	36	44	48	52
Short-Term Provisions	3	4	4	4	6	8
Total Current Liabilities	65	68	60	77	81	93
Net Current Assets	316	448	544	645	703	769
<b>Total Application of Funds</b>	<b>893</b>	<b>1070</b>	<b>1186</b>	<b>1323</b>	<b>1413</b>	<b>1520</b>

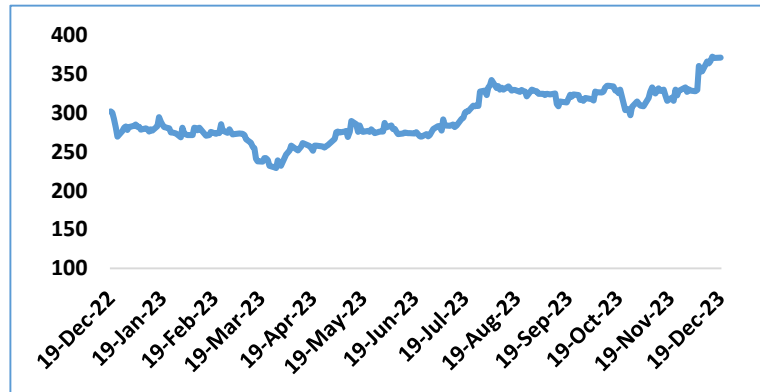


# Advanced Enzyme Technologies Ltd.

## Cash Flow Statement

(Rs Cr)	FY20	FY21	FY22	FY23	FY24E	FY25E
Reported PBT	179	210	171	140	174	210
Non-operating & EO items	-6	-9	-6	-26	-21	-25
Interest Expenses	3	2	2	2	3	3
Depreciation	26	28	35	35	37	40
Working Capital Change	-11	-12	-25	25	-6	-43
Tax Paid	-51	-57	-55	-37	-46	-55
<b>OPERATING CASH FLOW ( a )</b>	<b>141</b>	<b>163</b>	<b>122</b>	<b>141</b>	<b>142</b>	<b>132</b>
Capex	-51	-20	-28	-38	-65	-80
Free Cash Flow	90	143	94	102	77	52
Investments	0	-15	18	-285	-5	-5
Non-operating income	6	9	6	26	21	25
<b>INVESTING CASH FLOW ( b )</b>	<b>-45</b>	<b>-26</b>	<b>-4</b>	<b>-298</b>	<b>-49</b>	<b>-61</b>
Debt Issuance / (Repaid)	-27	-51	-25	-8	4	6
Interest Expenses	-3	-2	-2	-2	-3	-3
FCFE	60	91	68	92	78	54
Share Capital Issuance	2	34	-10	-3	0	0
Dividend	-11	-8	-12	-13	-40	-52
<b>FINANCING CASH FLOW ( c )</b>	<b>-39</b>	<b>-26</b>	<b>-49</b>	<b>-26</b>	<b>-39</b>	<b>-50</b>
<b>NET CASH FLOW (a+b+c)</b>	<b>58</b>	<b>111</b>	<b>70</b>	<b>-184</b>	<b>54</b>	<b>21</b>

## One Year Price Chart



## Key Ratios

	FY20	FY21	FY22	FY23	FY24E	FY25E
<b>Profitability (%)</b>						
Gross Margin	81.8	80.3	79.3	75.6	77.3	78.5
EBITDA Margin	45.6	46.1	38.0	28.9	31.8	33.0
EBIT Margin	39.8	40.5	31.4	22.4	25.7	27.2
APAT Margin	29.9	30.2	23.4	19.2	21.2	22.4
RoE	17.0	16.2	11.6	9.1	10.1	11.4
RoCE	19.1	18.6	13.8	9.0	10.9	12.2
<b>Solvency Ratio</b>						
Net Debt/EBITDA (x)	-0.9	-1.3	-1.8	-3.0	-2.8	-2.5
D/E	0.0	0.0	0.0	0.0	0.0	0.0
Net D/E	0	0	0	0	0	0
<b>PER SHARE DATA</b>						
EPS	11.6	13.1	10.7	9.4	11.6	14.1
CEPS	13.9	15.6	13.8	12.6	14.9	17.7
BV	75	87	97	111	118	128
Dividend	0.6	0.9	1.0	5.0	3.5	4.5
<b>Turnover Ratios (days)</b>						
Debtor days	61	63	61	68	64	65
Inventory days	65	63	67	65	68	69
Creditors days	20	30	27	33	32	33
<b>VALUATION</b>						
P/E	32.0	28.3	34.6	39.2	32.0	26.3
P/BV	4.9	4.3	3.8	3.3	3.1	2.9
EV/EBITDA	19.1	16.7	19.2	24.8	20.1	16.9
EV / Revenues	8.7	7.7	7.3	7.2	6.4	5.6
Dividend Yield (%)	0.2	0.2	0.3	1.4	0.9	1.2
Dividend Payout	5.2	6.9	9.3	53.0	30.2	32.0

(Source: Company, HDFC sec)



# Advanced Enzyme Technologies Ltd.



## 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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