

**Fermenta Biotech Limited** (formerly known as DIL Limited)

CIN: L99999MH1951PLC008485

Regd. Office: A - 1501, Thane One, DIL Complex, Ghodbunder Road, Majiwade, Thane (W) - 400 610, Maharashtra, India.

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Email : info@fermentabiotech.com, Website. : www.fermentabiotech.com



Ref: F.No.:49

March 17, 2022

**Corporate Relations**  
**BSE Limited,**  
**Phiroze Jeejeebhoy Towers,**  
**Dalal Street, Fort,**  
**Mumbai – 400 001**

Dear Sir,

**Sub.: Intimation of Investor Relations Presentation – March 2022**

**Ref: Scrip Code: 506414**

Pursuant to the relevant provisions of SEBI (Listing Obligations and Disclosure Requirements), Regulations 2015, we hereby enclose a copy of Investor Relations Presentation for March 2022 for your information.

The said Investor Presentation will thereafter be uploaded on Company's website at [www.fermentabiotech.com](http://www.fermentabiotech.com)

This information is submitted to you pursuant to Regulation 30 of the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements), Regulations, 2015.

Kindly take the same on records.

Thanking you,

Yours faithfully,  
for **FERMENTA BIOTECH LIMITED**  
**[Formerly known as DIL LIMITED]**

A handwritten signature in blue ink, appearing to read 'Srikant N Sharma', is written over a light blue horizontal line.

**Srikant N Sharma**  
**Company Secretary**  
CS Membership No: F3617  
A-1501, Thane One, DIL Complex, Ghodbunder Road, Majiwade, Thane (W) 400610

Encl: As above

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Website: www.fermentabiotech.com

Factory : Z - 109 B & C, SEZ II, Dahej,  
Taluka - Vagara, Dist: Bharuch - 392 130,  
Gujarat, India.  
Tel. : +91-2641-291440 / 444  
Email: info@fermentabiotech.com  
Website: www.fermentabiotech.com



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## FERMENTA BIOTECH LIMITED

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Investor Presentation | March 2022

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Only manufacturer of  
Vitamin D3 in India



Amongst top 3 manufacturers  
of Vitamin D3 globally



Global Presence in  
60+ countries



Proprietary technology to  
manufacture Vitamin D3



55 Years of Vitamin D3  
manufacturing experience



2 Manufacturing Plants  
registered with US-FDA (FFRN)



DSIR approved  
R&D facility



12 new patents filed



Big 4 statutory auditor:  
Deloitte



350+ clients across  
the globe



Backward integrated



High Return Ratios

# Company Overview

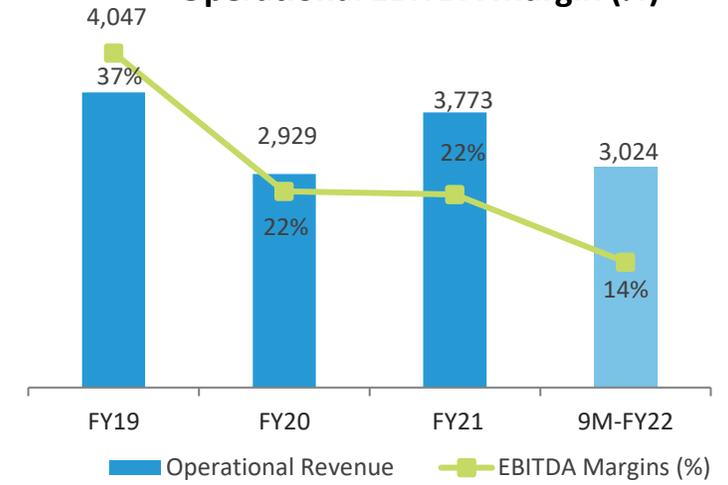


- Fermenta Biotech Limited (FBL) (Erstwhile DIL Ltd.) incorporated in 1951 by Dr. DVK Raju, is engaged in development and manufacturing of pharmaceuticals, biotechnology and environmental solutions used across various industries.
- On September 26, 2019, NCLT approved amalgamation of DIL & FBL which consolidated FBL's leadership capabilities backed by DIL's large asset base.
- With a rich history of seven decades FBL has evolved as a key global player in manufacturing of Vitamin D3 in all its formats and has a non-China dependent supply chain.
- FBL manufactures a range of Vitamin D3 variants having an optimal mix between human and animal feed products which have applications across multiple sectors like:

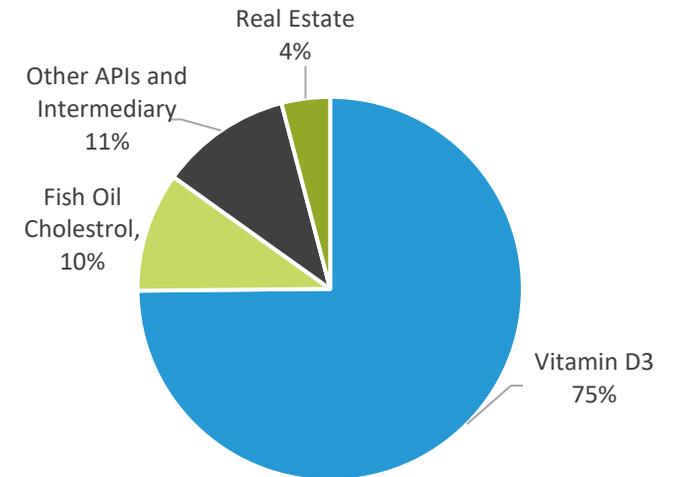
- |  |                 |
|--|-----------------|
| 1. Pharmaceuticals                     | 4. Animal feed  |
| 2. Dietary and nutritional supplements | 5. Veterinary   |
| 3. Food and beverage fortification     | 6. Rodenticides |

- The company is also involved in manufacturing of APIs for muscle relaxant and anti-flatulent applications.
- FBL delivers innovative enzymes used in manufacturing of active pharmaceutical ingredients and is involved in environmental solutions used for waste water treatment and management.
- The company also has legacy properties at Thane and Worli in Mumbai for which it realizes significant rental income.

**Operational Revenue (INR Mn) & Operational EBITDA Margin (%)**



**Revenue Mix % (9M-FY22)**





**Mr. Sanjay Buch -  
Chairman (Independent  
Director)**

- He holds a Bachelors Degree in Economics and Law and has over two decades of experience in wide spectrum of legal work.
- Currently, he is partner at Crawford Bayley & Co.
- An advocate and solicitor, specializing in business restructuring, mergers and acquisitions and is a member of various committees of the Board of Directors of the Company.



**Mr. Krishna Datla  
(Promoter & Executive  
Vice Chairman)**

- A Commerce Graduate from Mumbai University having around 20 years of experience in the industry
- A progressive thinker responsible for the decision making process and overseeing new businesses. He has infused a strong sense of global vision thereby opening the opportunities across International markets.



**Mr. Satish Varma  
(Executive Director)**

- In 1994, he joined the DIL group as the Executive Assistant to the then Managing Director. In this role he garnered extensive operational, management and legal experience across the full scope of the company. In 2003 he joined the Board of Directors of FBL.
- In addition to his Executive Board duties, he is also a member of the Stakeholder Relationship Committee.



**Ms. Anupama Datla  
(Executive Director)**

- She is a post-graduate in Biotechnology from the Mumbai University and a Science Graduate from the Boston College, USA. Joined FBL in 2006 and went on to join the board in 2007 as the Executive Director.
- She has taken executive leadership in R&D, quality control, and implementing safety policies and procedures across the organization.
- She is the author of various patents within the group, is in charge of introducing and implementing new technology platforms into the company and also spearheads the new business development.



**Ms. Rajeshwari Datla  
(Non-Executive  
Director)**

- A Science graduate having a rich experience in the Pharmaceutical Industry. She joined the board in 2005 as an additional director.



**Mr. Vinayak Hajare  
(Non-Executive  
Independent Director)**

- Qualified Masters degree holder in Financial management from Jamnalal Bajaj Institute of Management Studies.
- He has over three decades of work experience in areas such as Investment Banking and Corporate Finance.
- He has served as an Associate Director at Ernst and Young and has held several senior positions in companies like Caylor Bank, Credit Lyonnais, and Lazard India.



**Dr. Gopakumar Nair  
(Non-Executive  
Independent Director)**

- He has a Ph.D from National Chemical Laboratory (NCL), Diploma in Management & Patent Law and is Law graduate (LL.B) from Mumbai University.
- He is an Intellectual Property Rights Consultant and practicing Patent Attorney.
- He is also a practicing lawyer specialising in Mediation and Arbitration as well as in licensing and technology transfer. Further, has been associated with pharmaceutical industry for more than four decades as Director, Managing Director & Chairman of various public limited pharmaceutical companies.



**Ms. Rajshree Ojha  
(Non-Executive  
Independent Director)**

- Has over 28 years of experience in pharmaceutical industry including in R&D analytical development, technical/CMC documentation QC-QA-QM, regulatory compliance, and registration & marketing approvals globally.
- She has published many articles and research papers in reputed national and International Journals, she has also been awarded with various leadership awards.
- She is also an Adjunct Professor at KLE University, Mysore, and an Expert Member of Global Compliance Panel-DE.



**Mr. Prashant Nagre,  
Managing Director**

- Prashant Nagre is Managing Director of the company. Nearly three decades in the pharmaceuticals industry, he has in-depth experience across spheres encompassing the API business, production, Research and Development.
- At erstwhile DIL, Prashant headed strategy and day to day operations including Business Development, budgeting, manufacturing, R&D and allied activities. He holds a Master's in Management Sciences, and also a Post Graduate Diploma in International Trade (IIFT, New Delhi) besides a Degree in Pharmacy.

# Awards and Recognitions



**Best Workplaces™**  
in Biotechnology & Pharmaceuticals

**Great Place To Work®**  
**INDIA 2021**



India Pharma Awards 2021



Pride of Maharashtra Awards 2021



India Pharma Awards 2018

Excellence in R&D – Development of new product/technology (Runner up)

Best Company of the Year - Excellence in Exports

Excellence in CSR

Excellence in Export Promotion

Pharma International Excellence



The Economic Times Inspiring CEOs 2021



Chief Strategy Officer Summit & Awards 2020



Business Excellence Awards 2019



Hindustan Times Thane Ratna Award 2020



Best Business Brands 2020

# FBL Features in the Media

Forbes

## Fermenta Biotech: Lucre in sheep's clothing

By Naini Thaker | Aug 22, 2019

While extracting Vitamin D3 from wool has been its mainstay, the firm is looking to move beyond its niche and expand into biotechnology



Coverage in Forbes India  
Issue dated 30th August 2019



ET Now interview telecast on its morning prime time show on 6th January 2020

Fermenta Biotech Limited



TUESDAY, AUGUST 20, 2019



## Managing in a VUCA World

Creating shared value in a VUCA world ensures business continuity

In a world wrought with the multitude of variables, such as a new geography with unfamiliar regulatory norms, can be done by acquiring know-how through internal and external sources:

**Volatility:** In a state of dynamic instability such as price fluctuations, it is imperative to make the following investments that match the risk of rapid changes:

- Devote time and resources to preparedness - stockpile inventory
- Use data analytics to minimize the unpredictability

**Uncertainty:** A lack of clarity for the future, like a potential competitor's entry into the market, can be dealt in the ways below:

- Maintain flexibility in your strategy
- Invest in information such as primary research and market reports

**Complexity:** Making sense of the multitude of variables, such as a new geography with unfamiliar regulatory norms, can be done by acquiring know-how through internal and external sources:

- Hiring in specialists in your human capital
- Collaborate with partners who know the environment

**Ambiguity:** In cases when precedents are unknown or in-existent, like when launching a new product outside your core competency in emerging markets, navigate through the fog by:

- Setting incremental and clear goals for employees
- Being open to new and divergent ideas
- Whatever the state your business is in, maintaining clear communication with all stakeholders is the key to sustainable growth.

Economic Times supplement  
Dated 20th August 2019

THE TIMES OF INDIA

## Help Protect Our Protectors: Fermenta Biotech Ltd. & Indchemie Health Specialities Pvt. Ltd. donate Vitamin D to 250,000 Maharashtra Police personnel

Mediawire | Jul 30, 2020, 12:15 PM IST



*"Let hope be the antidote to fear. Let solidarity be the antidote to blame. Let our shared humanity be the antidote to our shared threat." - WHO Director-General's opening remarks at the media briefing on COVID-19 on 9th March 2020*

Coverage of CSR activity in The Times of India  
Dated 30<sup>th</sup> July 2020



mint

BRAND POST

## FBL develops and files a patent application for an orally active COVID 19 drug



Mr. Prashant Nagre, CEO, Fermenta Biotech Limited

Mr. Prashant Nagre, CEO, FBL

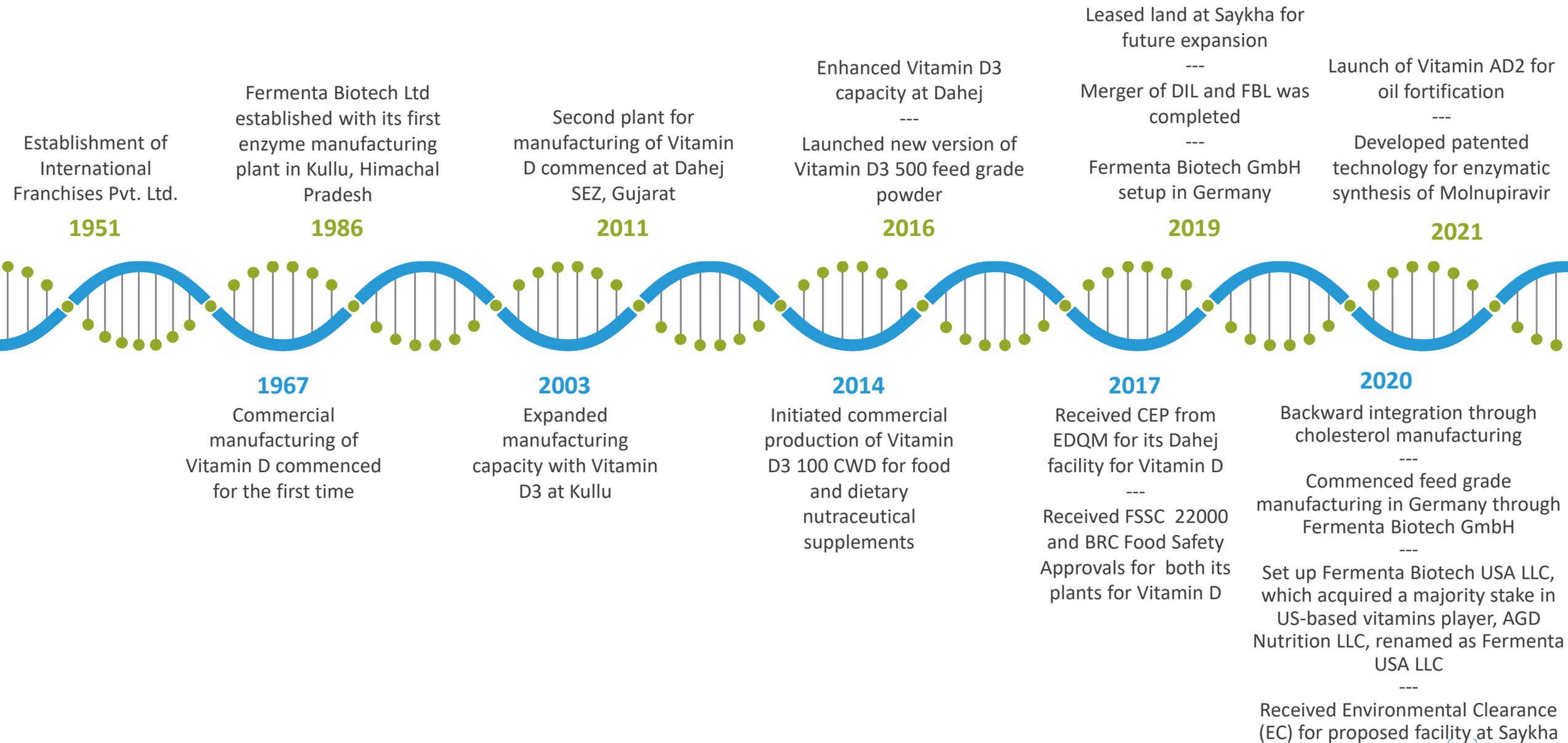
3 min read | Updated: 19 Apr 2021, 06:21 PM IST

Brand Post

- This novel technology using green chemistry provides a sustainable, efficient and scalable form of treatment to fight against COVID-19.

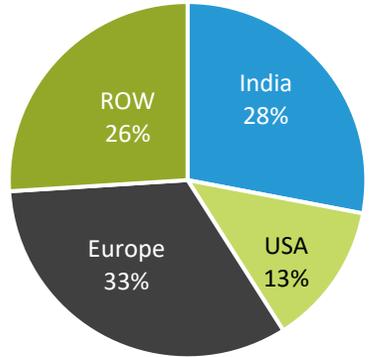
Press release coverage in Mint  
Dated 19<sup>th</sup> April 2021







**Geographical Revenue Mix % (FY21) for Vit D3 and Other API**



- R&D Centre and Registered Office
- Manufacturing Facility
- International Subsidiaries
- Regions Present

## Kullu (Himachal Pradesh)

- Set up the Biotech plant in 1987 to manufacture Penicillin G Amidase and Acylase enzyme. A new bulk drug division in 2004 to manufacture various APIs like Vitamin D3, Phenylramidol HCl and Silicon Powder.
- This plant is certified by WHO-GMP, CDSCO-WC, USFDA, HACCP, ISO-9001, ISO-14001, ISO-45001, BRC, FSSC, FSMA, FAMI-QS, HALAL, KOSHER etc.



## Dahej (Gujarat) – Vitamin D3

- Established a dedicated green field manufacturing facility in 2011 to primarily manufacture Vitamin D3.
- This plant is certified WHO-GMP, CDSCO-WC, HACCP, ISO-9001, ISO-14001, ISO-45001, BRC, FSSC, FSMA, FAMI-QS, HALAL, KOSHER etc.

## Dahej (Gujarat) – Backward Integration for Cholesterol

- Cholesterol is the key raw material for manufacturing of Vitamin D3, which is derived from wool grease (by-product of sheep wool scouring).
- In 2019, FBL implemented backward integration for manufacturing cholesterol which will cover 100% requirements.



# Accreditations & Certifications\*



\*Accreditations & Certifications are products / site specific



## R&D

- Modern, fully equipped, DSIR approved Research & Development facility complemented by highly skilled and committed scientists.
- Providing integrated solutions, processes and products for Biotech and Active Pharmaceutical Ingredients (API)
- API R&D, combined with expertise on photochemistry, chromatography and multi-step process development skills
- Biotech R&D has got wide experience in the areas of bacterial fermentation, enzyme expression, immobilization platforms and process development in various enzymatic applications
- Dedicated formulation development lab which currently focuses on solutions for various value-added formats in the nutrition basket, including premix (liquids and solids), and personal care portfolio



## Driven by the Discover, Develop & Deliver philosophy



## Quality



- Quality Assurance: Responsible for implementing quality systems, regulatory audits (national and international including customer and GMP) and releasing all manufactured products
- Regulatory Affairs: Ensures compliance with national and international regulatory requirements
- Quality Control: Responsible for all analysis, from analytical support to validations



Irradiation Process Of Pro Vitamin D



An Improved Process To Synthesize 5-(3-Pyridyl)-2, 2'-Bithiophene (Sensitizer)



Improved Cost Effective Process for Synthesis of Vitamin D3 and its Analogue Calcifediol from Ergosterol



Synthesis of 5-(3-pyridyl)-2,2'-Bithiophene (Sensitizer)



Novel Method For Synthesizing 25-OH Cholesterol/Calcifediol From Phytosterol



Improved Photochemical Synthesis Of Vitamin D3 Using Sensitizer



Synthesis of Cholesterol and Vitamin D3 From Phytosterols



An Efficient Method for Synthesis of 5-(3-pyridyl)-2,2'-Bithiophene (Sensitizer)

## New patents filed in 2021



Enzymatic Synthesis of Molnupiravir Intermediate



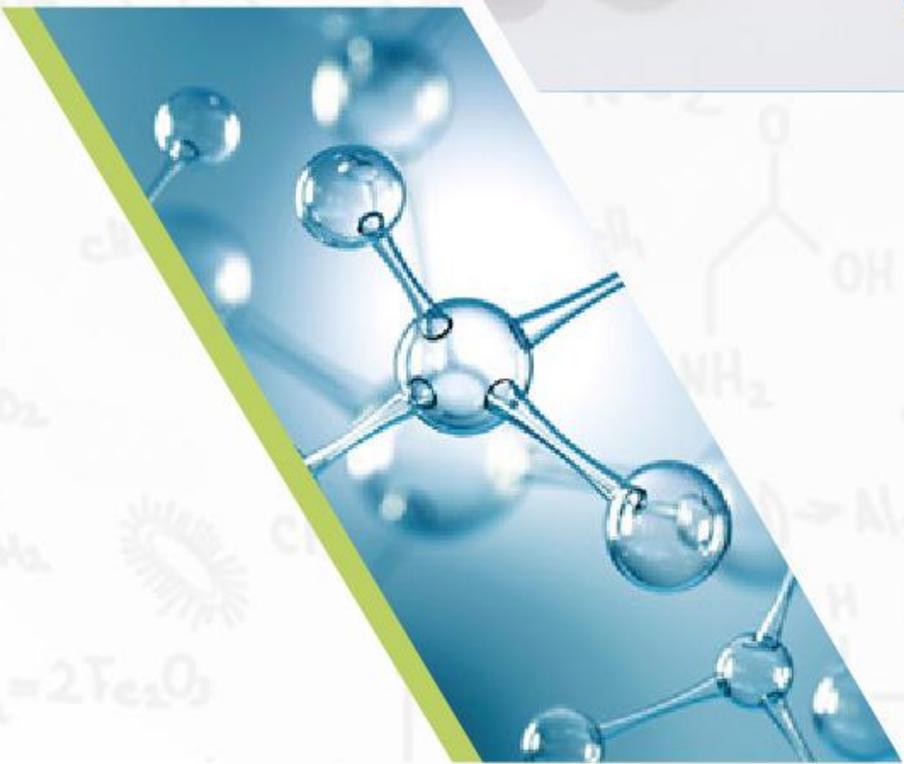
Chemo - Enzymatic Process for Synthesis of Molnupiravir



Scalable Two Step Synthesis of Molnupiravir



A one step process for the enzymatic synthesis of semisynthetic  $\beta$ -lactam antibiotics (Penmox)



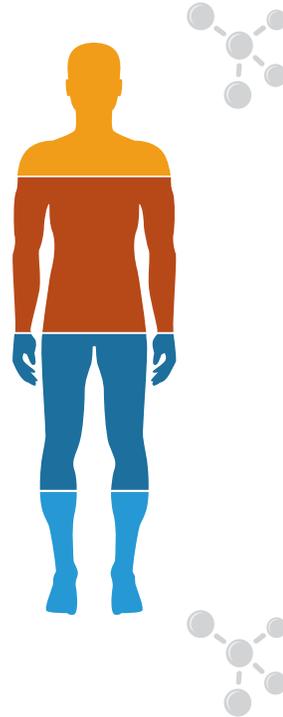
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## BUSINESS OVERVIEW

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# About Vitamin D3

- Vitamin D3 (Cholecalciferol) is a fat-soluble vitamin, responsible for calcium absorption in the body.
- Vitamin D3 is produced by the body when skin is exposed to UV-B rays from the sun. Vitamin D can also be obtained from dietary sources.
- 80-90% of the Indian population<sup>1</sup>, and over 1 billion people worldwide<sup>2</sup>, suffer from low Vitamin D levels – due to an indoors lifestyle and poor diet.

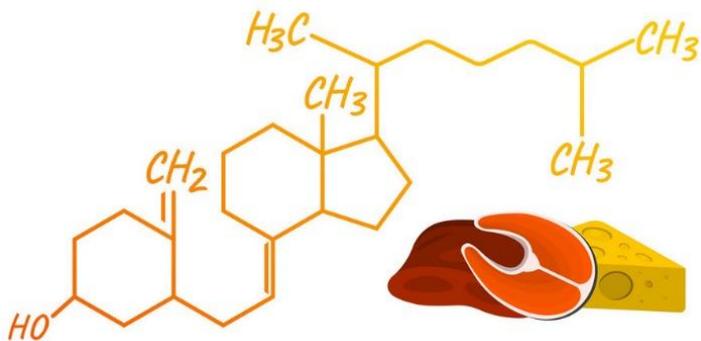


## For Humans

- Vitamin D has been linked to a multitude of health benefits such as general health and wellbeing, bone and mental health as well as management and prevention of certain lifestyle disorders such as diabetes and cardiovascular disease.
- Vitamin D has also been shown to play an important role in immunity and protection against respiratory infections.<sup>3</sup>
- Recent research has suggested that Vitamin D supplementation may reduce the risk of COVID-19 complications. Citing Vitamin D as a potent immune-modifying micronutrient, studies have advocated supplementation and called on governments to increase recommended levels.<sup>6,7,8</sup>

## For Animals

- Vitamin D has been seen to improve bone strength and density as well as fertility. It has the potential to enhance yield and quality of milk, meat and eggs.<sup>4,5</sup>

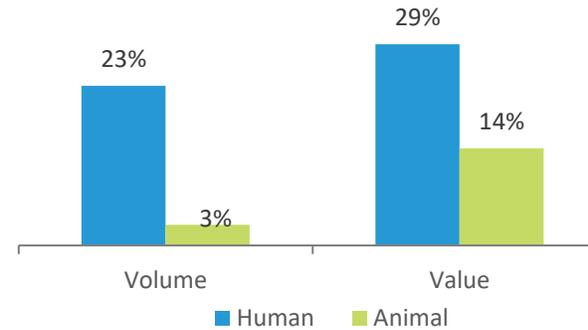


## References:

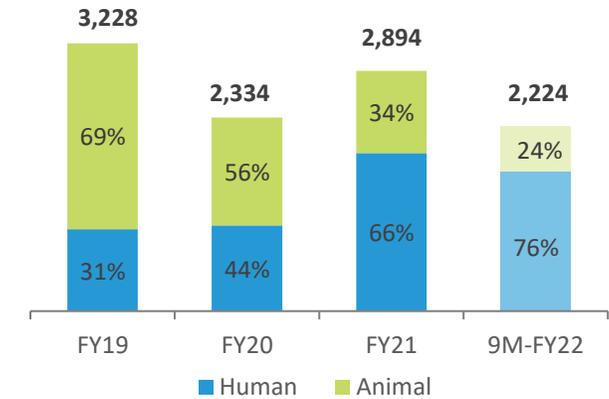
1. J Family Med Prim Care. 2018;7(2):324–330.
2. J Pharmacol Pharmacother. 2012;3(2):118–126.
3. Mayo Clin Proc. 2013;88(7):720–755.
4. J Dairy Sci. 1974 Sep;57(9):985-91.
5. Poult Sci. 1995 Dec;74(12):1919-34.
6. Aliment Pharmacol Ther, 51: 1434-1437., April 2020
7. TILDA, Irish Medical Journal, April 2020
8. Nutrients. 2020;12(4):988., April 2020

- FBL is a leader in manufacturing Vitamin D3, and has the distinction of being the only organization in India to manufacture Vitamin D3
- The company has a Non-China dependent supply chain.

**CAGR Growth FY15 to FY21**



**Vitamin D3 Revenue (INR Mn)**



### Unique

One of three CEP-certified companies worldwide



### Pioneering

Use of proprietary technology to manufacture Vitamin D3 API



### Knowledge Capital

55 years of experience and the proficiency in manufacturing Vitamin D3 with a base of over 350+ customers



### Scale

It is among the top three producers of Vitamin D3 API in the world



### One Stop Shop

It manufactures Vitamin D3 for various applications (human and veterinary healthcare, animal feed)



### Integrated

Superior quality and cost effectiveness from backward integrated manufacturing operations



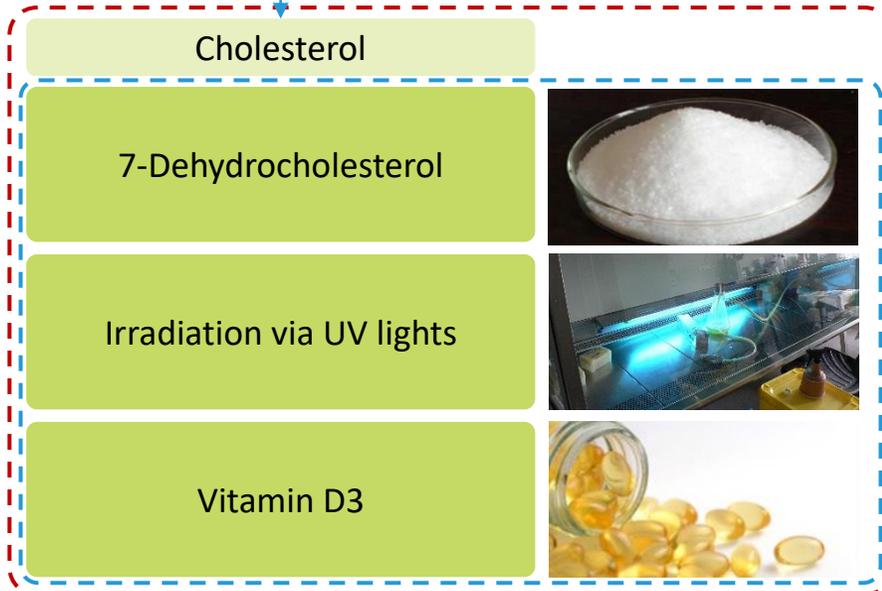
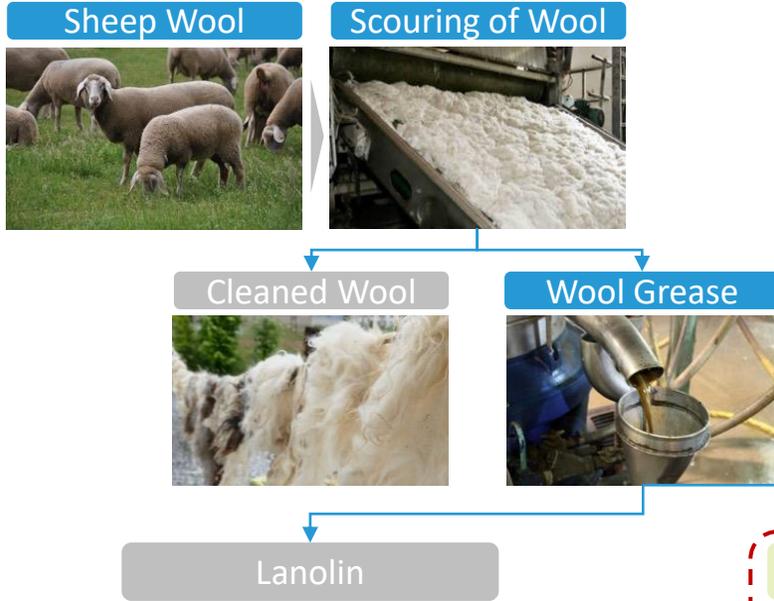
### Standardized

Products and manufacturing facilities certified by various global health regulatory like US-FDA (FFRN), American Vegetarian Association, FAMI-QS, WHO-GMP etc.

# Manufacturing Process and Applications



## Backward Integrated Manufacturing Process



--- Currently processing to manufacture Vitamin D3 from cholesterol

- - - Completed backward integration to manufacture cholesterol

## Vitamin D3 Applications

**For Humans**

- Pharmaceuticals
- Dietary and Nutritional Supplements
- Food and Drinks Fortification

**For Animals**

- Animal Feed
- Veterinary drugs
- Rodenticides

## Heritage of innovation in enzymes



## One-stop Destination for Green Chemistry

FBL's core expertise spans from microbial screening, fermentation, immobilization, biocatalysis, enzyme-mediated antibiotic synthesis to API intermediates & APIs

FBL is a pioneer in the development and production of fermentation-based Penicillin G Amidase enzyme (PGA) and commercialized immobilized enzymes in India

The Company is also actively working towards promoting CAL B lipase in niche applications which can revolutionize various critical API processes

FBL possesses patented technology for enzymatic synthesis of Molnupiravir

## APIs & Other intermediaries

- For over 25 years, FBL is a trusted and reliable source of Phenylamidol HCl (muscle relaxant) & Silicon Powder (anti-flatulent) APIs.



## Environmental Solutions

- FBL's Environmental Solutions provide unique advantages in waste water treatment and management through integrated biotechnology.



## Fish Oil Cholesterol

- As an extension to its product portfolio, FBL has started manufacturing cholesterol from fish oil for applications in the aquaculture market (specifically the shrimp feed segment), which was commercialised in FY21



## Real Estate - market value ~ Rs. 500 cr.

- 45 Acres of freehold land at Takawe, Pune
- ~10,000 sq. ft. leasable area at Worli, Mumbai
- ~ 6.5 Acres of freehold land at Thane One which is partly developed by constructing an IT/ITES building of ~ 200,000 sq ft leasable area.





# Monetization of Thane land: Development deal structure



## Property

- As part of its legacy property, Fermenta owns ~6.5 acres of freehold land in Thane. The zoning of the land is Industrial.
- This is partly developed by constructing Thane One, an IT/ITES Building having a total BUA of 12,679.81 sq metres as per the TMC approved OC plan.

## Project

- Fermenta has signed Binding Term Sheet with Mextech and granted development rights for construction of residential-cum-commercial buildings in the balance portion of land.
- Project completion is expected within 6 years of signing the Definitive Agreement.
- Revenues expected to be generated in a staggered manner post launch of the Project.

## Development partners and their role

- Development partners: Mextech Property Developers LLP, incorporated by the promoters of Nandivardhan Constructions Private Limited and RRC Ventures Private Limited.
- Development partners are solely responsible for obtaining approvals, permissions, construction, OC and sales
- They will solely bear all the costs of approvals, conversion charges, permissions, premiums and construction in the Project.

## Ownership

- Fermenta to receive 120,000 sq. ft. carpet area (as per RERA) of residential construction along with amenities as its share of premises in the Project, and the balance area to be owned by development partners. The agreement is not on revenue-sharing basis.
- Development partners not to mortgage the land or Fermenta's premises for obtaining funding from banks/financial institutions for the Project.
- Fermenta continues to solely own the already constructed Thane One building.

## Fairness Opinion

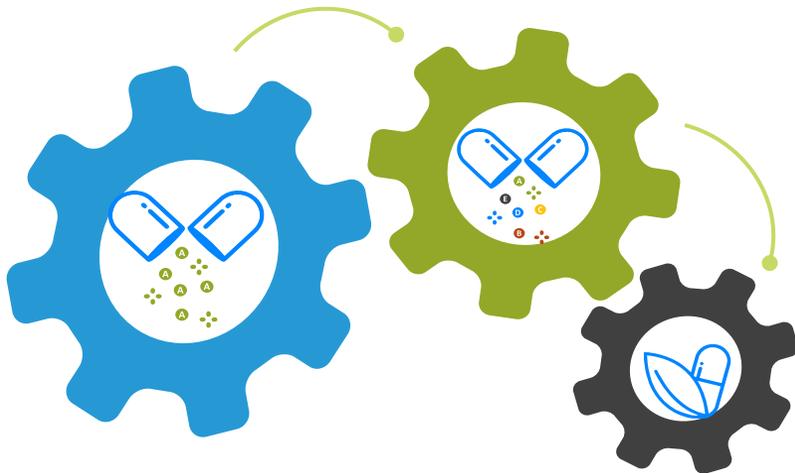
- The Company had appointed Knight Frank (India) Pvt Limited, an internationally reputed real estate advisory firm to provide fairness opinion and validation on the binding term sheet. They conducted valuation independently and opined that the estimated value achievable by Fermenta basis the commercial terms agreed in the binding term sheet signed with Mextech Property Developers LLP is fair and reasonable.

# Expanding Our Nutraceutical Basket

- From single Vitamin D3 to multi-vitamin, the company aims to widen its nutraceuticals ingredients basket within the next 5 years
- Developing new technologies enabling FBL to get into value-added ingredients, improving stability, bioavailability and scalability
- In this journey, the company is exploring inorganic opportunities as well
- Distribution network already built for catering to an expanded nutraceutical basket

## Single-vitamin to multi-vitamin

Aim to broaden vitamin product bouquet to be more palatable to customers



## Multi-vitamins to Nutraceuticals

Target initially by penetrating functional food and nutraceutical supplements. Further strategically adding core nutraceuticals for tackling common health problems and adding medical nutraceuticals for infant feeding, chronic ailments, boosting immunity, etc.

## Customer Segments



Infants



Adulthood



Childhood & Adolescence



Elderly

# Nutraceutical Product Pipeline



Vitamin D3 and its various formats for
Pharmaceuticals
Dietary & Nutritional Supplements
Food
Feed
Veterinary Science
Rodenticide

Variants of Fat soluble vitamins
Vitamin A
Vitamin E
Vitamin D2
Vitamin K1

Nutrition portfolio
Fortified Rice Kernel
Smart Minerals
Customized Premixes
Pre and Pro - Biotics



## Products Recently Launched

Vitamin D3 500  
Feed Grade (new  
variant from  
Fermenta  
Biotech GmbH)

Natural  
Astaxanthin

Omega - 3  
Fatty Acids

Vitamin  
AD2 for oil  
fortification

Fortified  
Rice Kernel

Vitamin K1

Customized  
premix

Q1  
FY21

Q3  
FY21

Q3  
FY21

Q1  
FY22

Q1  
FY23

Q2  
FY23

Q3  
FY23

# Growth Drivers

## Internal Factors

- Strong manufacturing capabilities with enhanced capacity utilizations to meet YoY production targets
- Enhancing control and reduced dependence by backward integration
- Sales footprint in 60+ countries spread across the globe
- Expanding into value added formats of vitamins like A, E, D2, manufacturing Vitamin K and further focus on development of smart minerals, novel anti-oxidants, customized premixes, pre and pro-biotics etc.
- Setting up plant at Sayakha, Gujarat for enhancing nutraceutical portfolio.

## External Factors

- Increased prescription market for Vitamin D3 formulations
- Growing need for applications in the form of tablets, capsules and syrups
- Government guidelines related to use of Vitamin D in food fortification
- Significant portion of global population is Vitamin D deficient or insufficient
- Understanding of Vitamin D benefits has moved beyond bone & joint health to management of lifestyle disorder as well as general health, wellbeing and immunity





## Enhanced Focus

Exiting of non-core business activities and laying long term emphasis on expanding the Nutraceutical business.



## Capital Allocation Plans

All future capital allocation will be focused towards Nutraceuticals business.



## Real Estate Business

The company has taken steps towards monetizing these assets at appropriate valuations and there are no plans to infuse any further capital in real estate.



## Debt

The company has a long term debt of approximate INR 128 Cr with a low average cost of debt at ~ 7% pa. Around 55% of the long term debt is towards the real estate business where the lease rentals are self sufficient enough to take care of the principal repayment and interest.



## Focus to reduce working capital

The company's increase in working capital was primarily due to the increased inventory levels. This was a strategic move to secure key raw material requirements. Going ahead the working capital is expected to significantly reduce.



## Dividend Policy

The company strives to have a prudent dividend policy with a healthy balance between shareholders' returns and organizational requirement for future growth.



## Capacity Expansion

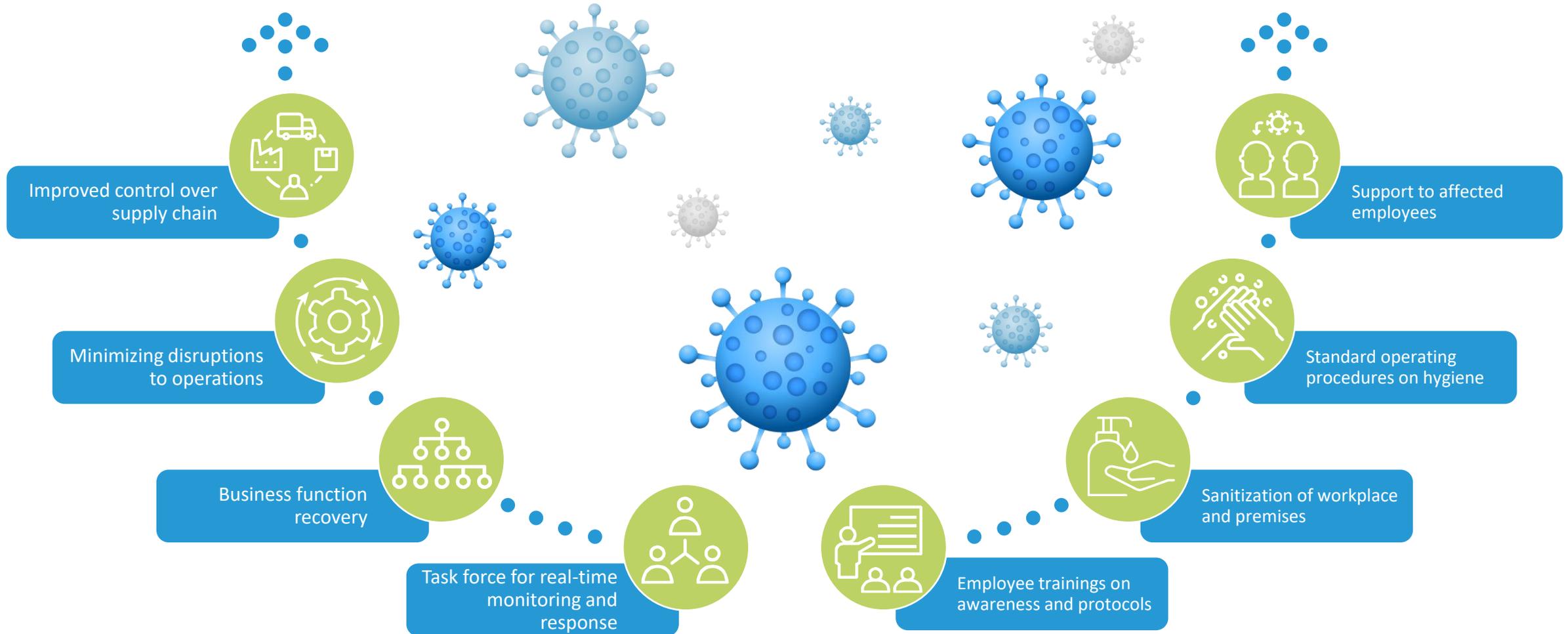
Around 20% capacity expansion for Vitamin D3 in Q2 FY22 with INR 30 Cr investment

# Risk mitigation measures for COVID-19



## Business Continuity Planning

## Safeguarding Human Capital





## INDUSTRY OVERVIEW

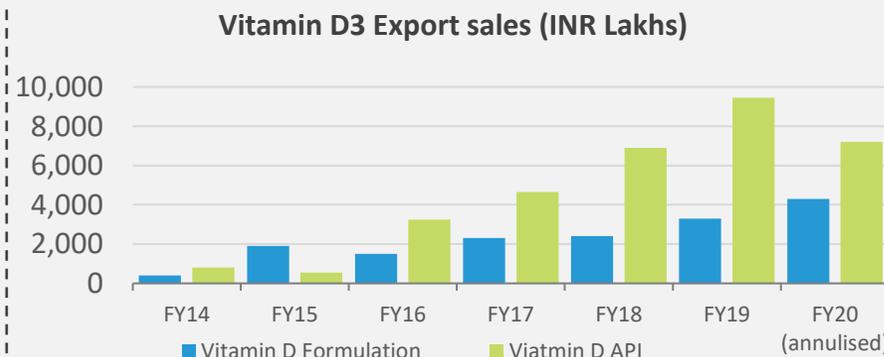
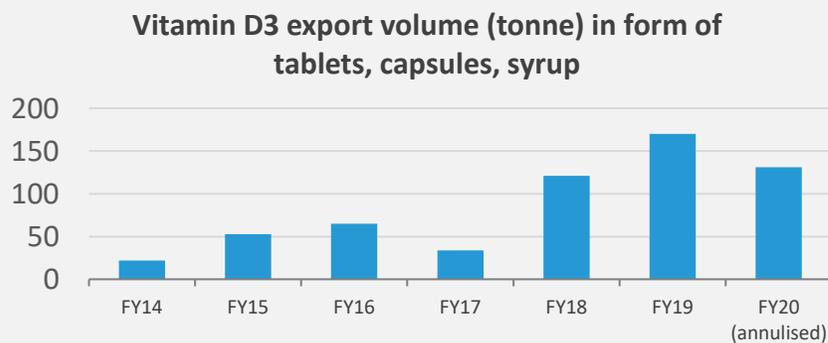
# Vitamin D Industry



- The Vitamin D market is estimated to account for about USD 1.1 billion in 2019 and is projected to reach a value of nearly USD 1.7 billion by 2025, growing at a CAGR of 7.0% from 2019 to 2025.
- Around the world 1 in 3 women and 1 in 5 men over the age of 50 will suffer an osteoporotic fracture. In fact, a bone will break every 3 seconds because of this disease. Osteoporotic fractures are a result of osteoporosis, a condition in which the bones become more fragile due to bone deterioration or low bone mass.
- Numerous studies across various regions of India indicate that approximately 70-90% of apparently healthy population is Vitamin D deficient.
- According to the 2019 Alltech Global Feed Survey, Asia Pacific is home to several of the top 10 feed-producing countries, including China, India, and Japan; and accounted for more than 36.0% of the world's feed tonnage. China dominated as the top feed-producing country in the world, with 187.9 million metric tons (207.1 million tons).
- Data shows the Vitamin D3 market saw an 80.5 per cent jump from 2014 levels, whereas the Vitamin D combinations products market size witnessed a 141.5 per cent jump.

Market size of vitamins and CAGR			
	MAT Value July 2014 (INR Bn)	MAT Value July 2018 (INR Bn)	5-year value CAGR (%)
Vitamin D3 market size	2.98	5.38	15.9
Overall market of vitamins	39.28	58.08	8.14

Market shares of vitamin segment	
Vitamin sub-segment	Market share in overall vitamin segment (%)
Multivitamins + Minerals	22.28
Vitamin D3	9.27
Plain Vitamin B Complex	5.45



Source: marketsandmarkets, iofbonehealth.org, Business Standard, Moneycontrol

Top Vitamin D3 Brands		
Brand	Company	Market share (%)
Uprise D3	Alkem Laboratories	12.17
Calcirol	Cadila Pharma	11.49
Arachitol	Abbott India	6.06
Depura	Sanofi	5.19
D3 Must	Mankind Pharma	4.93

*“The goal should be to raise 25(OH)D concentrations above 40-60 ng/mL (100-150 nmol/L). For treatment of people who become infected with COVID-19, higher vitamin D3 doses might be useful.” – Dr. William Grant\**

*"If you're deficient in vitamin D, that does have an impact on your susceptibility to infection. I would not mind recommending, and I do it myself, taking vitamin D supplements.” – Dr. Anthony Fauci, Director, National Institute of Allergy and Infectious Diseases^*

\*Nutrients. 2020 Apr 2;12(4):988.

^Business Insider, 12<sup>th</sup> September 2020

Internal and Emergency Medicine  
<https://doi.org/10.1007/s11739-021-02902-w>

IM - ORIGINAL

**Vitamin D deficiency is associated with higher risks for SARS-CoV-2 infection and COVID-19 severity: a retrospective case–control study**

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**Abstract**  
 Robust evidence of whether vitamin D deficiency is associated with COVID-19 infection and its severity is still lacking. The aim of the study was to evaluate the association between vitamin D levels and the risks of SARS-CoV-2 infection and severe disease in those infected. A retrospective study was carried out among members of Clalit Health Services (CHS), the largest healthcare organization in Israel, between March 1 and October 31, 2020. We created two matched case–control groups of individuals for which vitamin D levels and body mass index (BMI) were available before the pandemic: group (A), in which 41,757 individuals with positive SARS-CoV-2 PCR tests were matched with 417,570 control individuals without evidence of infection, and group (B), in which 2533 patients hospitalized in severe condition for COVID-19 were matched with 2533 patients who were tested positive for SARS-CoV-2, but were not hospitalized. Conditional logistic models were fitted in each of the groups to assess the association between vitamin D levels and outcome. An inverse correlation was demonstrated between the level of vitamin D and the risks of SARS-CoV-2 infection and of severe disease in those infected. Patients with very low vitamin D levels (<30 nmol/L) had the highest risks for SARS-CoV-2 infection and also for severe COVID-19 when infected—OR 1.246 [95% CI 1.210–1.304] and 1.513 [95% CI 1.230–1.861], respectively. In this large observational population study, we show a significant association between vitamin D deficiency and the risks of SARS-CoV-2 infection and of severe disease in those infected.

Lower Vitamin D levels may have an impact on the incidence and severity of COVID-19 infection.

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META-ANALYSIS  
 Infectious Diseases

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 CLINICAL PRACTICE WILEY

**The role of vitamin D in the age of COVID-19: A systematic review and meta-analysis**

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**Abstract**  
**Background:** Evidence recommends that vitamin D might be a crucial supportive agent for the immune system, mainly in cytokine response regulation against COVID-19. Hence, we carried out a systematic review and meta-analysis in order to maximise the use of everything that exists about the role of vitamin D in the COVID-19.

There is about 3 times higher chance of getting infected with SARS-CoV-2 among Vitamin-D-deficient individuals and about 5 times higher probability of developing severe disease in Vitamin-D-deficient patients

**nutrients**

Systematic Review  
**COVID-19 Mortality Risk Correlates Inversely with Vitamin D3 Status, and a Mortality Rate Close to Zero Could Theoretically Be Achieved at 50 ng/mL 25(OH)D3: Results of a Systematic Review and Meta-Analysis**

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Low Vitamin D3 is a predictor rather than just a side effect of the infection

PLOS ONE

RESEARCH ARTICLE  
**Pre-infection 25-hydroxyvitamin D3 levels and association with severity of COVID-19 illness**

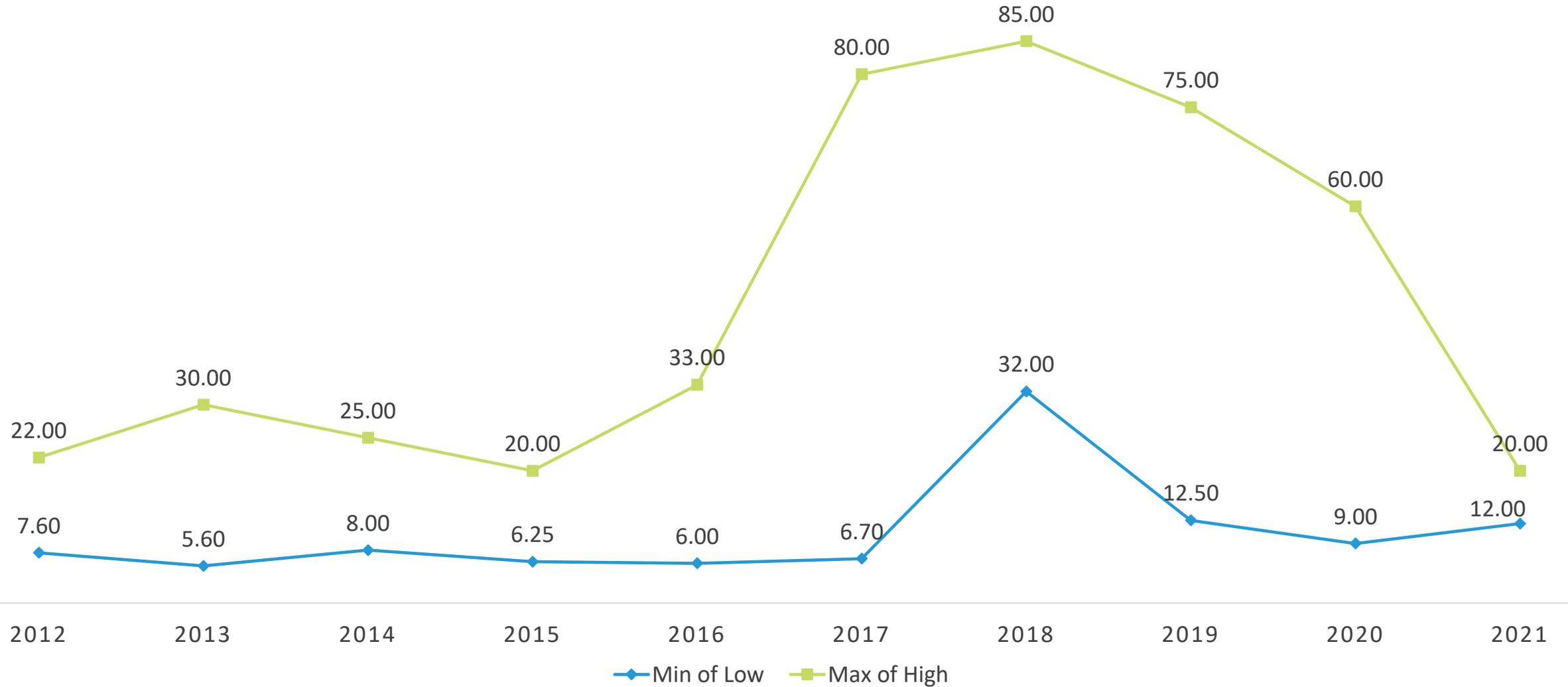
Amiel A. Dror<sup>1,2,\*</sup>, Nicole Morozov<sup>3</sup>, Amani Daoud<sup>1,2</sup>, Yoav Namir<sup>2</sup>, Orly Yakir<sup>4</sup>, Yair Shachar<sup>1</sup>, Mark Lifshitz<sup>5</sup>, Ella Segal<sup>1,2</sup>, Lior Fisher<sup>1,2</sup>, Matti Mizrahi<sup>1,2</sup>, Netanel Eisenbach<sup>1,2</sup>, Doaa Rayan<sup>1,2</sup>, Maayan Gruber<sup>1,2</sup>, Amir Bashkin<sup>2,6</sup>, Edward Kaykov<sup>2,7</sup>, Masad Barhoum<sup>8</sup>, Michael Edelstein<sup>9</sup>, Eyal Sela<sup>1,2</sup>

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 \* amiekdror@gmail.com

Abstract

Among hospitalized COVID-19 patients, pre-infection deficiency of Vitamin D was associated with increased disease severity and mortality.

# Vitamin D3 500 Animal Feed Price Trend



Source: [feedinfo.com](http://feedinfo.com)

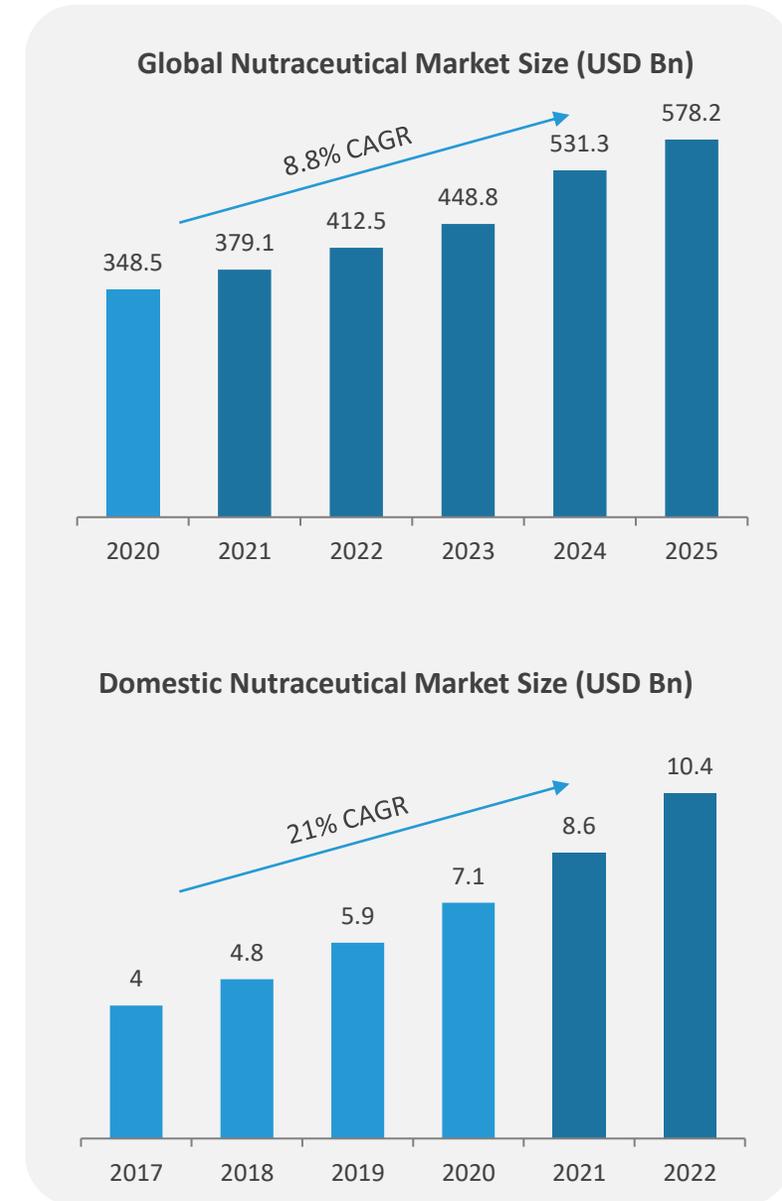
\*As per calendar year

# Nutraceutical Industry



- The USA, Japan and Europe account for more than 90% of the total global nutraceutical market.
- North America nutraceuticals market is a mature market and is likely to progress at a CAGR of over 7.8% from 2016 to 2024. Increasing utilization of functional food and beverages by the baby boomer population in North America is expected to augment market growth.
- Central & South America accounted for a market share of 7.2% in 2016 and is projected to ascend at a CAGR of 9.0% from 2017 to 2025 in terms of revenue owing to growing demand for nutraceuticals in Brazil.
- Dietary supplements segment is expected to ascend at a CAGR of over 9.7% from 2017 to 2025 on account of rising product demand from Brazil, China, India, South Korea, Poland, and Mexico.
- Focus of nutraceutical players is now shifting towards developing economies, especially those across Asia Pacific, including India.
- In 2017, the Indian market held only 2% market share of the global nutraceutical market and its estimated valuation stands at around \$5 billion as of 2019. It is expected to reach \$11 billion by 2023, increasing at a CAGR of 21%. By 2023, India is also expected to hold at least 3.5% market share of the global market.
- Asia Pacific is predicted to ascend at the fastest CAGR of 9.9% over the forecast period on account of rapid growth of the market in China, Japan, and India.

Source: Business Standard, ASSOCHAM Nutraceuticals Report 2018



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24.78

## FINANCIAL OVERVIEW



# Historical Standalone Income Statement



PARTICULARS (INR Mn)	9M-FY22	FY21	FY20	FY19
<b>Operational Revenue</b>	<b>2,933</b>	<b>3,728</b>	<b>3,005</b>	<b>4,047</b>
Total Expenses	2,359	2,791	2,311	2,634
<b>Operational EBITDA</b>	<b>574</b>	<b>937</b>	<b>694</b>	<b>1,413</b>
<b>Operational EBITDA Margin (%)</b>	<b>19.57%</b>	<b>25.13%</b>	<b>23.09%</b>	<b>34.91%</b>
Other Income	45	66	123	123
Depreciation	176	190	149	119
Finance Cost	127	181	193	206
<b>PBT</b>	<b>316</b>	<b>632</b>	<b>475</b>	<b>1,211</b>
Tax	104	112	(162)	107
<b>PAT</b>	<b>212</b>	<b>520</b>	<b>637</b>	<b>1,104</b>
<b>PAT Margins (%)</b>	<b>7.23%</b>	<b>13.95%</b>	<b>21.20%</b>	<b>27.28%</b>
Other Comprehensive Income	0	(0.4)	18	(15)
<b>Total Comprehensive Income</b>	<b>212</b>	<b>519</b>	<b>655</b>	<b>1,089</b>
Diluted EPS (INR)	7.31	17.92	21.96	38.24*

\*Adjusted EPS post bonus issue in the proportion of 2:1

# Standalone Balance Sheet (Ind-AS)



PARTICULARS (INR Mn)	H1-FY22	FY21	FY20
<b>Equity</b>	<b>3,857</b>	<b>3,704</b>	<b>3,126</b>
a) Equity share capital	144	144	144
b) Other equity	3,713	3,560	2,982
<b>Liabilities</b>			
<b>Non-current liabilities</b>	<b>1,128</b>	<b>1,192</b>	<b>1,115</b>
a) Financial liabilities	-		
i) Borrowings	1,031	1,104	1,018
ii) Lease liabilities	43	35	45
iii) Other financial liabilities	5	5	6
b) Provisions	47	45	41
d) Other non-current liabilities	2	3	5
<b>Current Liabilities</b>	<b>1,891</b>	<b>1,929</b>	<b>1,855</b>
a) Financial liabilities	-		
i) Borrowings	1,171	1,188	1,043
ii) Lease liabilities	11	12	11
ii) Trade payables	516	457	472
iii) Other financial liabilities	134	184	297
b) Provisions	6	8	6
c) Other current liabilities	50	76	23
d) Current tax liabilities (Net)	3	3	3
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>6,876</b>	<b>6,825</b>	<b>6,096</b>

PARTICULARS (INR Mn)	H1-FY22	FY21	FY20
<b>Assets</b>			
<b>Non-current Assets</b>	<b>3,806</b>	<b>3,745</b>	<b>3,272</b>
a) Property, plant and equipment	1,901	1,538	1,040
b) Capital work-in-progress	226	527	671
c) Right of use assets	166	147	162
d) Investment property	683	682	707
e) Goodwill	41	41	41
f) Other intangible assets	78	88	18
g) Intangible assets under development	41	42	37
h) Investments	-		
i) Investments in subsidiaries	127	127	8
i) Financial assets	-		
i) Investments	3	2	3
ii) Loans	-	-	2
iii) Others financial assets	34	22	41
j) Deferred tax assets (Net)	340	381	381
k) Non-current tax assets (Net)	127	113	91
l) Other non-current assets	39	35	70
<b>Current Assets</b>	<b>3,070</b>	<b>3,080</b>	<b>2,824</b>
a) Inventories	1,271	1,328	1,135
b) Financial assets	-		
i) Trade receivables	1,054	961	774
ii) Cash and cash equivalents	112	136	68
iii) Bank balances other than (iii) above	231	277	256
iv) Loans	-	48	213
v) Other financial assets	50	80	129
c) Other current assets	352	250	249
<b>TOTAL ASSETS</b>	<b>6,876</b>	<b>6,825</b>	<b>6,096</b>

# Historical Consolidated Income Statement



PARTICULARS (INR Mn)	9M-FY22	FY21	FY20	FY19
<b>Operational Revenue</b>	<b>3,024</b>	<b>3,773</b>	<b>2,929</b>	<b>4,047</b>
Total Expenses	2,587	2,956	2,277	2,558
<b>Operational EBITDA</b>	<b>437</b>	<b>817</b>	<b>652</b>	<b>1,489</b>
<b>Operational EBITDA Margin (%)</b>	<b>14.45%</b>	<b>21.65%</b>	<b>22.26%</b>	<b>36.79%</b>
Other Income	53	82	123	124
Depreciation	191	203	150	119
Finance Cost	127	180	191	207
<b>PBT</b>	<b>172</b>	<b>516</b>	<b>434</b>	<b>1,287</b>
Tax	99	91	(161)	108
<b>PAT before Associates &amp; Joint Venture</b>	<b>73</b>	<b>425</b>	<b>595</b>	<b>1,179</b>
Share of Loss of Associates & Joint Venture	-	-	-	(4)
Non-controlling interests	5	30	-	-
<b>PAT</b>	<b>78</b>	<b>455</b>	<b>595</b>	<b>1,175</b>
<b>PAT Margins (%)</b>	<b>2.58%</b>	<b>12.06%</b>	<b>20.31%</b>	<b>29.03%</b>
Other Comprehensive Income	7	(2)	17	(15)
<b>Total Comprehensive Income</b>	<b>80</b>	<b>423</b>	<b>612</b>	<b>1,160</b>
Diluted EPS (INR)	2.68	15.69	20.53	40.70*

\*Adjusted EPS post bonus issue in the proportion of 2:1

# Consolidated Balance Sheet (Ind-AS)



PARTICULARS (INR Mn)	H1-FY22	FY21	FY20
<b>Equity</b>	<b>3,721</b>	<b>3,603</b>	<b>3,094</b>
a) Equity share capital	144	144	144
b) Other equity	3,581	3,462	2,950
c) Non-controlling interests	(4)	(3)	0.1
<b>Liabilities</b>			
<b>Non-current liabilities</b>	<b>1,110</b>	<b>1,175</b>	<b>1,097</b>
a) Financial liabilities	-		
i) Borrowings	1,031	1,105	1,018
ii) Lease liabilities	25	17	27
iii) Other financial liabilities	5	5	6
b) Provisions	47	45	41
c) Other non-current liabilities	2	3	5
<b>Current Liabilities</b>	<b>2,069</b>	<b>2,093</b>	<b>1,946</b>
a) Financial liabilities	-		
i) Borrowings	1,171	1,188	1,043
ii) Lease liabilities	11	12	11
ii) Trade payables	688	621	564
iii) Other financial liabilities	134	184	297
b) Provisions	9	7	5
c) Other current liabilities	53	77	23
d) Current tax liabilities (Net)	3	3	3
<b>TOTAL EQUITY AND LIABILITIES</b>	<b>6,900</b>	<b>6,871</b>	<b>6,137</b>

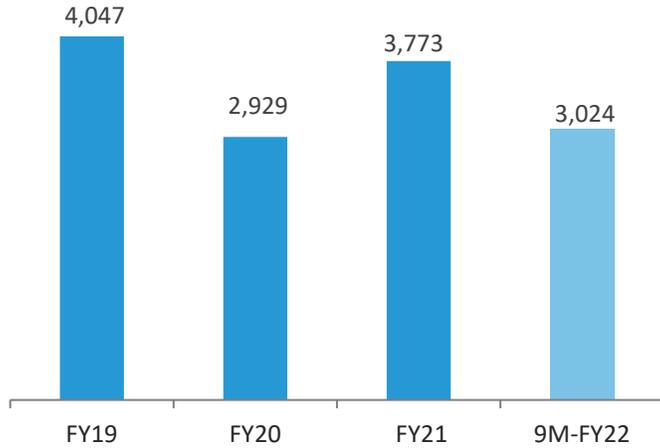
PARTICULARS (INR Mn)	H1-FY22	FY21	FY20
<b>Assets</b>			
<b>Non-current Assets</b>	<b>3,830</b>	<b>3,775</b>	<b>3,297</b>
a) Property, plant and equipment	1,901	1,539	1,040
b) Capital work-in-progress	226	527	671
c) Right of use assets	149	129	143
d) Investment property	688	687	713
e) Goodwill	108	107	41
f) Other intangible assets	150	168	65
g) Intangible assets under development	41	42	37
h) Financial assets	-		
i) Investments	3	3	3
ii) Loans	-	-	2
iii) Others financial assets	34	22	40
i) Deferred tax assets (Net)	364	403	381
j) Non-current tax assets (Net)	127	113	91
k) Other non-current assets	39	35	70
<b>Current Assets</b>	<b>3,070</b>	<b>3,096</b>	<b>2,840</b>
a) Inventories	1,624	1,623	1,286
b) Financial assets	-		
i) Trade receivables	703	680	698
ii) Cash and cash equivalents	143	168	75
iii) Bank balances other than (iii) above	231	277	256
iv) Loans	-	48	213
v) Other financial assets	3	35	63
c) Other current assets	366	265	249
<b>TOTAL ASSETS</b>	<b>6,900</b>	<b>6,871</b>	<b>6,137</b>



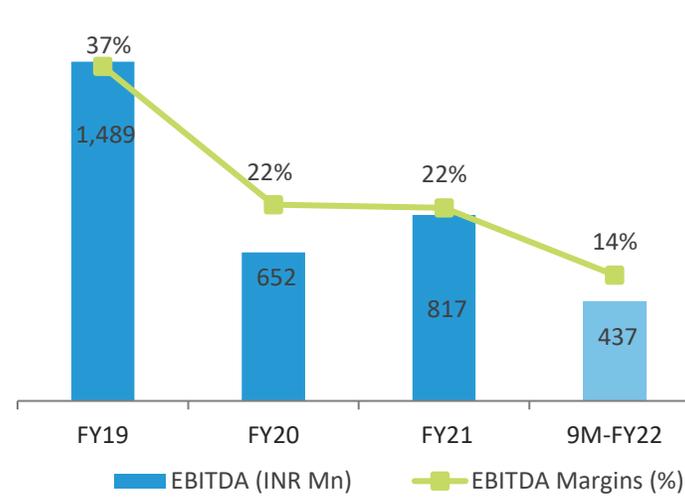
# Historical Consolidated Financial Performance



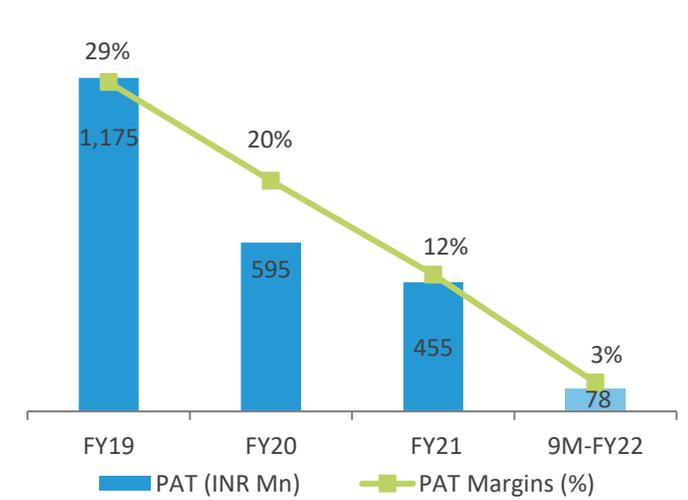
### Operational Revenue (INR Mn)



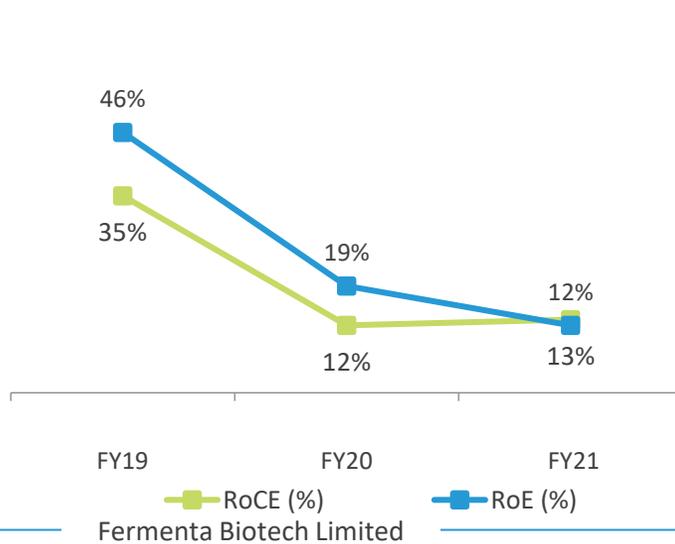
### Operational EBITDA (INR Mn) & Margins (%)



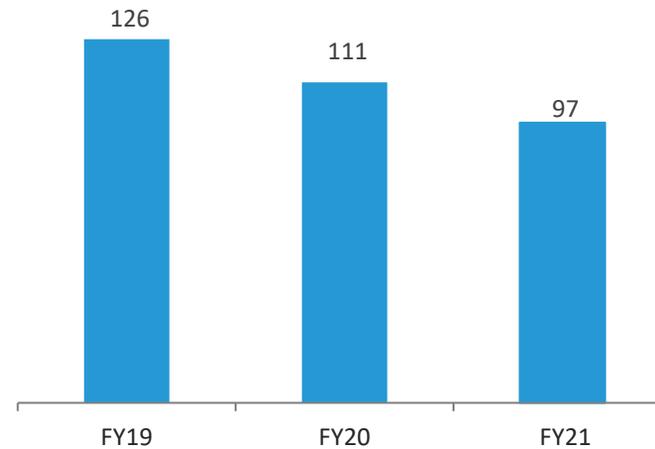
### PAT (INR Mn) & Margins (%)



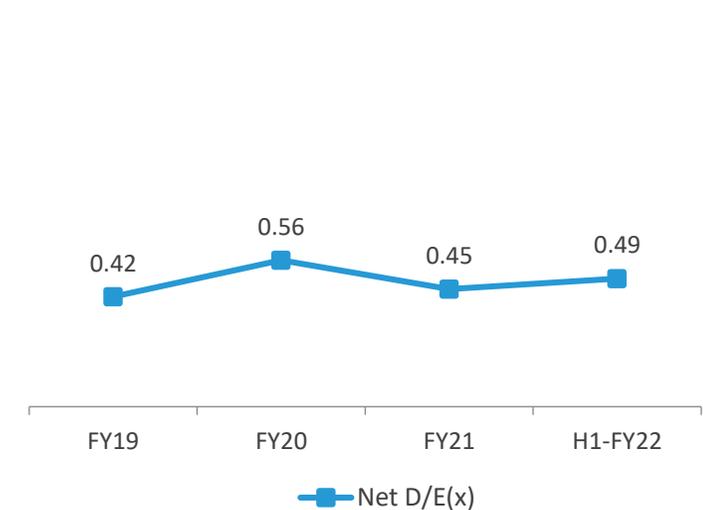
### RoCE & RoE (%)



### Working Capital Days



### Net Debt to Equity (x)



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