

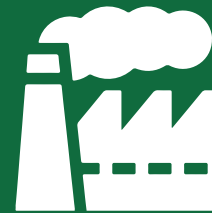


BUSINESS PROFILE

WHO
WE ARE

**Preferred Engineering
Consultants for
Pharmaceutical &
Allied Industries**

**Experience
25+ years**



**500+
Projects**

**Presence
30+ Countries**



**USFDA / UKMHRA / EMEA /
ANVISA / TGA
100+ Approved
Facilities**

Segments



Formulations



API & Chemicals



Biopharma



Lab, R&D & Pilot Plants



**Food, Beverages
& Cosmetics**



Nutraceuticals



**Alternative
Energy**



Logistics & Warehouses

Vision

Become the world's premier, fully integrated one stop solution provider to the Pharmaceutical, Food, Healthcare and Personal Care industries.

Mission

- Provide reliable professional services to our customers meeting international standards of current good engineering practices.
- To recruit qualified & competent manpower in order to achieve the business goal, i.e. to have right people at right time with right mix of skills.
- Forging mutually beneficial and lasting relationship with our clients and partners
- Developing our staff to deliver the highest quality of service and seek innovative & creative approaches towards problem solving.



R. S. Swaminathan

Founder & Managing Director

Values

Integrity -

Respect your words and do what you say

Mutual Respect -

Treat every individual with respect and dignity. Give respect and command respect.

Team Work -

One for all and all for one.

Customer Focus -

Customer is King, if we don't meet his expectation, someone else will.

Innovation -

Thinking out-of-the-box to generate new ideas and add value.

Quality Conscious -

First time right.



"No two Pharmaceutical plants are similar and our designs are intelligent enough to understand the differences."

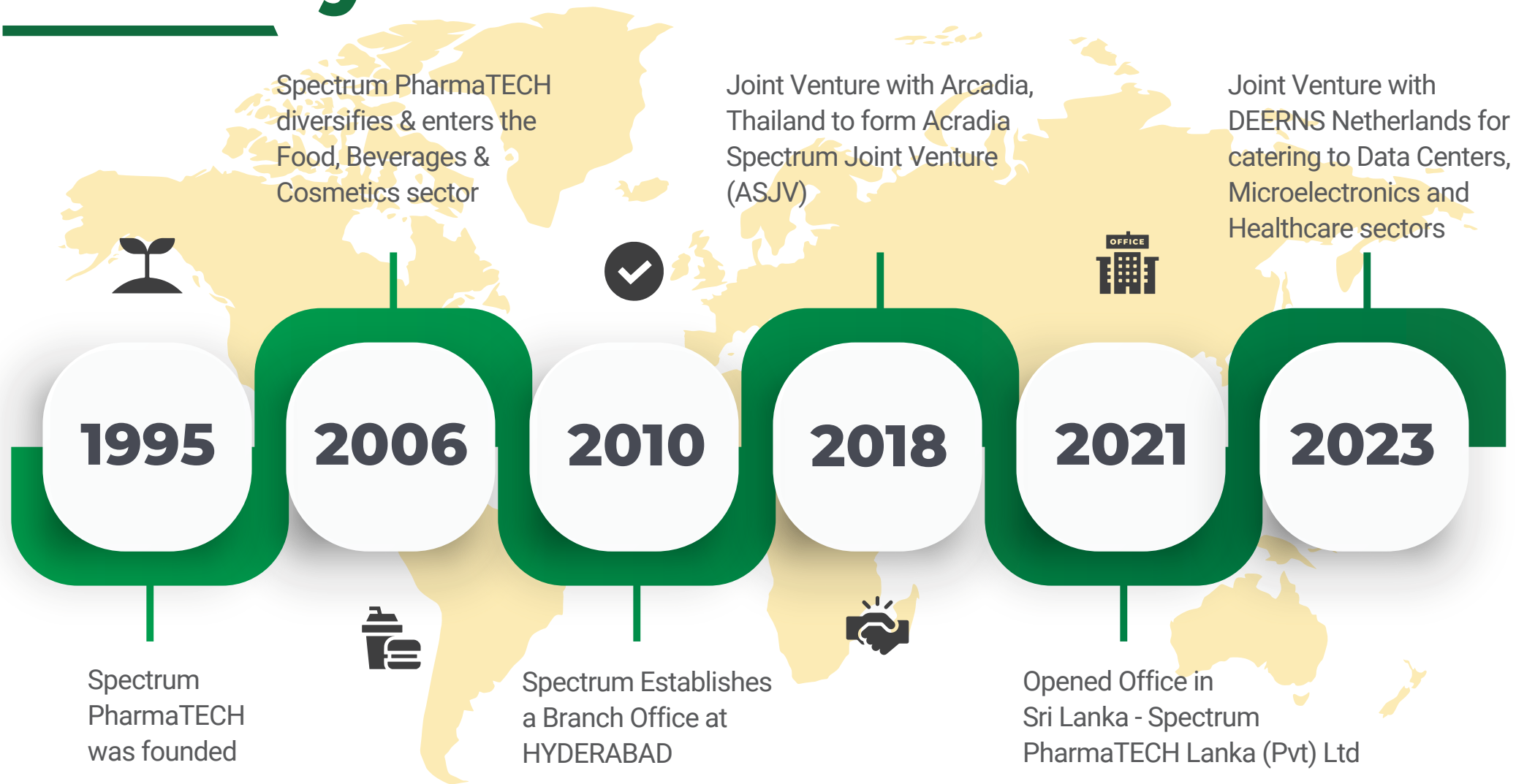
Aniruddha Parmar
Deputy Managing Director



"Our design philosophy helps us create facilities at optimum costs that stand the test of usage and time. We are committed to create safe and green work places."

Ajit Kadam
Director - Operations

OUR History



Our Partners Globally:



WHAT WE DO



One stop solution to all your
Pharma Project requirements

Advisory

- Pre-feasibility & Feasibility studies
- Market Research & Product Selection
- Techno-Commercial Feasibility study for
 - New Manufacturing Facility
 - Extension or Modification of an existing plant.
- Business Plan
- Site Selection Studies
- Benchmarking
- Technology Transfer

Conceptual Design & Basis of Design Development

- Site Master Planning
- Conceptual Design Development
- GMP Risk Assessment
- EHS Risk Assessment
- Containment Strategies
- General Planning & Engineering
- Technology Selection
- Equipment Study & Procurement
- Civil & Architecture
- Expansion/Relocation / Integration Planning

Engineering

- Detailed Building Engineering including:
 - Architectural
 - Civil
 - Structural
 - Process
 - HVAC
 - Electrical
 - Mechanical & Piping
 - Utilities
 - Plumbing
 - Instrumentation & Automation
 - Fire & Safety
 - Environmental

Procurement Assistance

- Preparation of Detailed Vendor List
- Floating of Equipment Enquiry / Tender Documents
- Follow up for offers.
- Techno-commercial evaluation of offers / bids
- Approval of GA drawings

Construction Management

- Project Management
- Construction Supervision
- Time Cost Estimation
- Bill Certification

Documentation

- Validation Master Plan
- GMP Risk Analysis
- Qualification Protocols for Process Equipments, PLC, HMI, SCADA, Camera System
- Computer System Validation
- Quality Management Systems
- SOP's for Production, Warehouse, QC, Cleaning, etc.
- Support Services for Process Validation
- Supervision for onsite Validation & Compile Reports

WE FOLLOW

- Baseline Engineering guides by ISPE
- ISO-14644 – Design of Clean Room and Controlled Environment
- US FDA
- UK MHRA / EU
- SOUTH AFRICAN MCC

- AUSTRALIAN TGA
- PIC/S
- BRAZILIAN ANVISA
- WHO GMP
- INDIAN SCH-M

- MOCRA
- FSSAI
- HACCP

EPC

YOU DREAM IT,
WE MAKE IT

End to End Solutions for Your Business

**We can deliver one-stop EPC
(Engineering, Procurement & Construction) solutions.**

Turnkey Advantage -

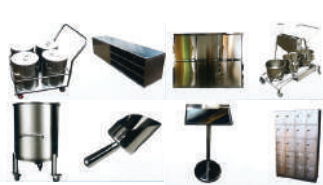
- Single Point Responsibility
- Faster Project Delivery
- Reduce Owner Burden
- Guarantee on pricing



HVAC SYSTEMS



**HT, LT & LV
SYSTEMS**



**CLEANROOM
EQUIPMENTS
& SS FURNITURE**



**FILLING &
PACKAGING
SOLUTION**



**LAB FURNITURE &
TESTING CHAMBER**



CLEANROOM



**GENERATION &
DISTRIBUTION**



**PROCESS
MACHINERY**



**ASEPTIC FILLING
SOLUTION**



**PEB & CIVIL
CONSTRUCTION
DOCUMENTATION
& VALIDATION**



FORMULATION EXPERTISE

We believe that design of finished dosage form facility is more of an art than just pure engineering and science.

It requires a clear understanding of not only the process but also requires consideration of cGMP regulations, regulatory compliance, local statutory norms, quality management and special care for cross contamination, gowning, EHS, cleaning, air flow control and water purification.

Spectrum has successfully executed 300+ formulation facilities of various dosage forms listed below -

- Oral Solid Dosage
- Oral Liquid Dosage
- Injectables
- Dry Powder Injectables
- IV Solution
- Ointments
- Creams & Lotions
- Eye, Ear & Nasal Drops
- Metered Dosage Inhalers
- Soft Gelatin Capsules



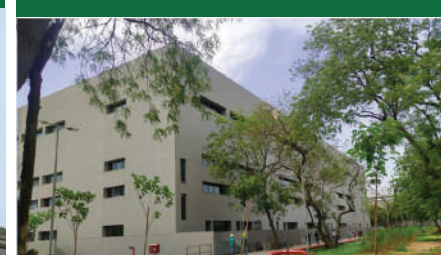
BDR PHARMA – GENERAL/ONCOLOGY OSD & INJECTABLE FACILITY AT VADODARA, INDIA



TROIKAA PHARMACEUTICALS – INJECTABLES FACILITY AT AHMEDABAD, INDIA



GRANULES INDIA – OSD (MUPS) FACILITY AT HYDERABAD, INDIA



TORRENT – ONCOLOGY OSD FACILITY AT AHMEDABAD, INDIA



PHARMAX – OSD FACILITY AT DUBAI, UAE



BIOPHARMACEUTICALS EXPERTISE

Spectrum has rich experience in designing and assisting in selection of high-end process equipment of upstream, downstream and filling sections for the biologics and fermentation-based API manufacturing facility

We consider the biosafety level of the product and facility during designing adhering to BSL-2 & BSL-3 standards. We have executed vaccine projects of several types like inactivated virus, live attenuated, and viral vector.

Experience in setting up below facilities -

- Biologics API
- Insulin Manufacturing
- MAB'S Manufacturing
- Biosimilar API
- Human & Animal Vaccines
- FMD Vaccines
- Probiotics
- Biologics Lab



**BIOLOGICAL E – VACCINE FACILITY
AT HYDERABAD, INDIA**



**PSK PHARMA – MAB'S FACILITY
AT MOSCOW, RUSSIA**



**STELIS – VACCINE FACILITY
AT BENGALURU, INDIA**



**FERMENTA BIOTECH – VITAMIN D3
FACILITY AT DAHEJ, INDIA**



**YAPAN BIO – PILOT SCALE GMP MABS &
VACCINE FACILITY AT HYDERABAD, INDIA**



APIs & CHEMICALS EXPERTISE

Process engineering expertise holds the success behind setting up state-of-the-art API & Fine Chemicals Facilities. We understand client's process needs and design the facility considering the critical process reactions at high temperature or high-pressure with all the safety standards like SHE, HAZOP etc. We provide detail P&ID, PFD, Material Data Sheets for all the major equipment and ancillary items. We have in house instrumentation team to design the DCS system and the instrumentation philosophy which requires in depth process knowledge

Experience in setting up below facilities -

- Generic API
- Hi-Potent API
- Sterile API
- High-Temperature and High-Pressure reactions
- Solvent Recovery Plants
- Specialty Chemicals
- API / Intermediates
- Fine Chemicals
- Hydrogenation, Halogenation Reactions



**CADILA – MULTIPRODUCT
API FACILITY AT VADODARA, INDIA**



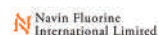
**ALMELO – MULTIPRODUCT
API FACILITY AT HYDERABAD, INDIA**



**BIOCON – ONCOLOGY API FACILITY
AT VISAKHAPATNAM, INDIA**



**SAI LIFESCIENCES – HI – POTENT
API FACILITY AT BIDAR, INDIA**



LAB, R&D & PILOT PLANTS EXPERTISE

Spectrum can develop ergonomic designs of the workspaces and the laboratory furniture without compromising on the functional and safety requirements of laboratories.

Our design development work for the laboratories include design of functional spaces, utilities generation and distribution network, high purity gas system, exhaust systems, fume hoods, HVAC, Electrical, Fire protection, explosion proof, safety systems like eye wash and shower, special handling and storage systems for flammable and toxic chemicals, reagents and solvents, design of material handling system for high-potent and biohazard materials, design of laboratory wastes and effluent deactivation and treatment systems.

Experience in setting up below facilities-

- Product Development Lab
- Microbiological Lab
- Analytical Lab
- API Kilo Lab
- Biologics Lab
- Hi-Potent Lab
- Food Lab



**KUSUM PHARM – ANALYTICAL LAB
AT SUMY, UKRAINE**



**ABBOTT – PRODUCT DEVELOPMENT
LAB AT MUMBAI, INDIA**



**MERCK – R&D FACILITY
AT MUMBAI, INDIA**



**MANGALAM ORGANICS – CAMPHOR
R&D LAB AT KHOPOLI, INDIA**



FOOD, BEVERAGES, COSMETICS & ALTERNATIVE ENERGY SECTORS

Spectrum has the experience and expertise to design and engineer facilities that require a clean environment. Be it the Pharma or the Food & Beverage Industry. Spectrum has worked with leading Indian and Multinational Food, Beverages and Cosmetics Manufacturers.

The projects engineered by Spectrum are designed to conform to the Guidelines by International Regulatory authorities such as FSSAI, HACCP, cGMP, HAZOP, HALAL, MOCRA & FDA standards. Spectrum understands the nature of the product and the storage conditions required for both raw materials and finished goods for such industries.

Recently, Spectrum has also designed and executed projects for leading players in the Solar Energy Industry.

A very important aspect of engineering for any kind of industry is Warehousing solutions. Spectrum has a vast experience in setting up warehouses and regional hubs for allied industries as well.

Spectrum has an experience in setting up:

- Food & Beverages Facilities
- Cosmetics Facilities
- Solar Cells & Panel Manufacturing Facilities
- Packaging Industries
- Logistics and Warehousing Solutions



DANONE – MILK POWDER & YOGURT MIX FORMULATION FACILITY AT HARYANA



DR. REDDY'S LAB – ASRS BASED WAREHOUSE AT VISHAKHAPATNAM, INDIA



EMAMI – COSMETIC MANUFACTURING FACILITY, GUJARAT, INDIA



HCCB – ASSP LINE EXPANSION, BENGALURU, INDIA



WAREE – SOLAR CELL MANUFACTURING FACILITY AT GUJARAT, INDIA



OUR **CLIENTS**

FORMULATION

- AET Lab
- Abbott Healthcare
- Abode Biotech
- Acebright Pharma (Arizest Pharma) India
- Adora Products
- Aj Biologics
- Alidac Pharmaceuticals
- Apex Laboratories
- BDR Pharmaceuticals International
- Beximco Pharmaceuticals
- Biological E. Limited
- Bliss GVS Pharma
- Corona Remedies
- Dal Medical Services
- Danone
- Democedes
- Dr. Reddy's Laboratories
- DSM
- Empact Capital LLC
- Emami
- Glenmark Pharmaceuticals
- Granules India
- Graviti Pharmaceuticals
- Healthcare Formulations
- Helvoet Pharrna
- Hetero labs (Annora)
- Himalaya Drugs
- Intas Pharmaceuticals
- JSC Pharmasyntez
- Jamp India Pharmaceuticals
- Jizhong Pharma
- Johnson & Johnson
- Kusum Healthcare
- Les Laboratories Neapolis
- Levim Lifetech
- MSN Laboratories
- Medica Pharmaceuticals
- Mepro Pharmaceuticals
- Novast Laboratories
- PAR Pharmaceuticals
- Pharmax Pharmaceuticals
- Pigeon Consmer Care Products
- Popular Pharmaceuticals
- Raichem Life sciences
- Regal Pharmaceuticals
- RN Vision Biopharma
- Rus Biopharma (PSKPhama LLC)
- S Kant Healthcare
- Sanzyme (Formerly known as Unisankyo)
- Square Pharmaceuticals
- Stallion Laboratories
- Syngene International
- Torrent Pharmaceuticals
- Troikaa Pharmaceuticals
- Ultratech India
- Vidur Human Care
- Yaden Laboratories

LAB, R&D & PILOT PLANTS

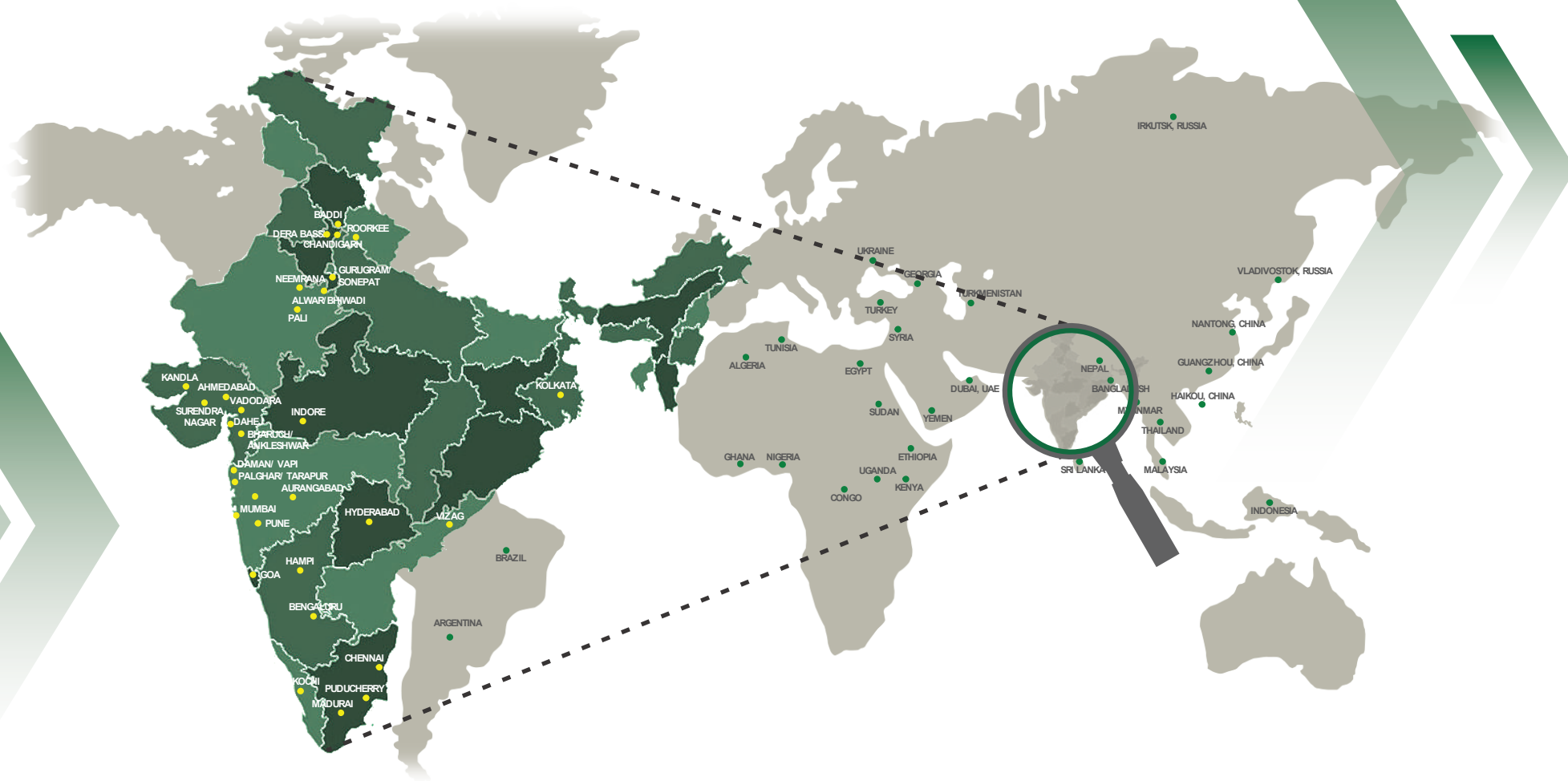
- Abbot India
- Abbott Healthcare
- Abhayam
- Agape
- BDR Pharmaceuticals International
- Celon Laboratories
- Dandu Biosciences
- Enaltec
- GVK - Inogent laboratories
- Granules Life sciences
- Himalaya
- Jamp India Pharmaceuticals
- Jubilant Ingrevia
- Johnson & Johnson
- Lupin
- Mangalam Organics
- Mankind Pharma
- Merck Specialities
- Mylan
- Novartis Healthcare
- Par Pharmaceuticals
- Perfect Day India
- Perrigo Laboratories India
- Promed Research
- SRF limited
- Sarvotharn Care
- Shilpa Laboratories
- Syngene International
- The Waterbase
- US based MNC (Confidential Client)
- Watson India
- Yapan Bio
- Zydus Cadila

API & CHEMICALS

- AB Mauri
- Actavia Pharmaceuticals
- Alivira Animal Health
- Alkem Laboratories
- Almelo Chemicals
- Amrutajan Healthcare
- BASF Coating (India)
- Biocon
- Biological E
- Bioxera Labs
- Cadila Healthcare
- Chemino Pharma
- Doshion Veolia Water Solution
- Dr. Reddy's Laboratories
- EVA Pharma
- Embio
- Emcure Pharmaceutical
- Enaltec Labs
- Fermenta Biotech
- Glenmark Generics
- Granules India
- IBN SINA
- K. Patel Lifesciences
- Kores India
- MSN Laboratories
- Mac—Chem
- Navin Fluorine International
- Omni Active Health
- PAR Active
- Piramal
- Pheromones Biotech LLP
- RPG Life Sciences
- Reliance Life Sciences
- SAPPL
- SRF
- Sai Life Sciences
- Sanzyme
- Sterling Biotech
- Surya Medicare
- Suven Life Sciences
- Tex Biosciences
- Therapiva Private
- Troikaa Pharmachem
- Uni Remedies
- Wockhardt
- Zenfold Sustainable Technologies

BIOPHARMACEUTICALS

- AB Mauri
- Adobe Biotech
- Aspiro Pharma
- Beximco Pharmaceuticals
- Bharat Serums (Kasiak Research)
- Biological E
- Dandu Biosciences
- Fermenta Biotech
- Indian Immunologicals
- LLC PSK Pharma
- Lazuline Biotech
- Levim Lifetech
- MSN Laboratories
- Perfect Day India
- Sanzyme
- Stelis Biopharma
- Tex Biosciences
- Wockhardt
- Yapan Bio
- Zydus Biologics



Head Office, 302B, Dosti Pinnacle, Road No. 22, Wagle Estate Thane(W)- 400604| Maharashtra | India.

Branch Office, 808, 8th Floor, Manjeera Trinity Corporate, Beside Manjeera Mall, JNTU - Hi-tech City Road, KPHB | Hyderabad|Telangna-500072| India



PETS, Bangladesh

House # 9 (2nd Floor), Road # 12, Sector # 11, Uttara,Dhaka-1230, Bangladesh



Arcadia Spectrum Joint Venture

944 Room S25063, 25th Floor, Mitrtown Office Tower, Samyan Mitrtown Project, Rama IV Rd, Wang Mai,Pathum Wan, Bangkok 10330 Thailand



PT Melchers Melindo,

Puri Indah Financial Tower Lantai 1 – Unit 03
Jl. Puri Lingkar Dalam Blok T-8
Jakarta Barat 11610, Indonesia



MEACO, Egypt

Gamal Abdel Naser street, 8 district, Alnasr buildings (section 14), before family land compound, Block 30, building 3, Flat 1, 6-October. Giza, Egypt



Spectrum PharmaTECH Lanka (Pvt) Ltd

135B 1/1, Rajagiriya Road, Rajagiriya, Sri Jayawardenepura Kotte, Sri Lanka.



CREPRO (Algeria & Tunisia) Sousse, Tunisia

103 Avenue, 15 Octobre, 4000 Sousse, Tunisie



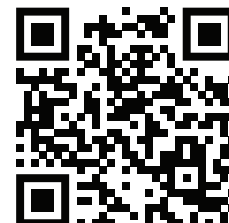
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