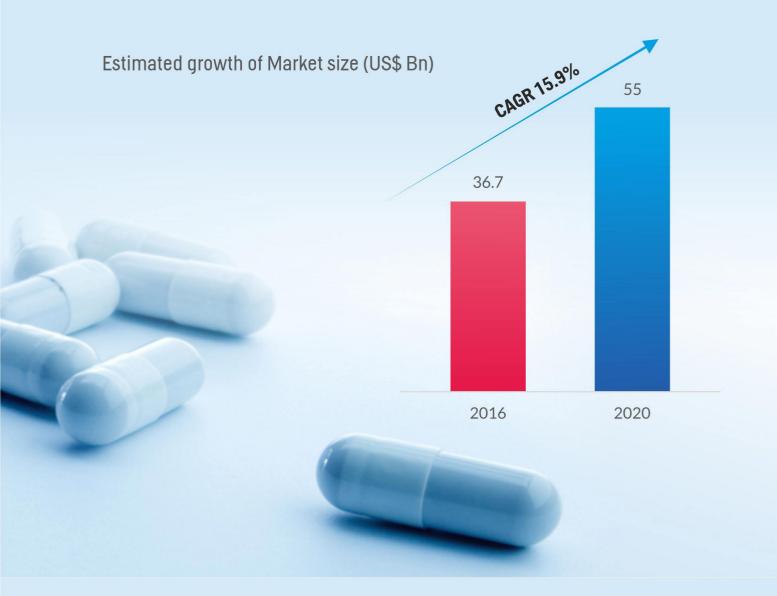


# Pharmaceuticals & Biotechnology Sector Profile



# India Pharma Sector - Brief Overview

<b>1</b> <sup>st</sup>	Largest vaccine Producer in the World	
4 <sup>th</sup>	Largest medical device market in Asia	
20%	Global share of Generic Medicines Supplies by Volume	
US\$ 36.7 Bn	Size of the Indian Pharma market in 2017	
~2%	Contribution to Country's GDP	
10%	Contribution to world pharma production by volume	
US\$ 16.84 Bn	Pharma exports in FY2017	
US\$ 15.59 Bn	FDI inflow in drugs & pharmaceuticals sector between April 2000 and December 2017	

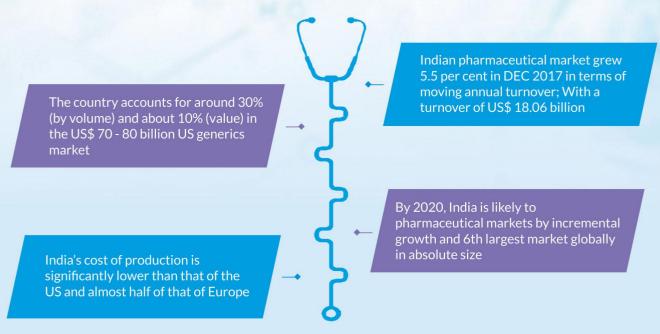




	Active Pharmaceutical Ingredients (APIs)	Formulations	Contract Research & Manufacturing Services (CRAMS)	Biosimilars
Growth	Accounts for the 2nd largest number of Abbreviated New Drug Applications (ANDA)  World's leader in Drug Master Files (DMFs) applications with the US	Largest exporter of formulations in terms of volume, with 14% market share & 12th in terms of export value  Domestic market size currently valued at US\$ 11.2 billion	CRAMS industry is estimated to reach US\$ 18 billion in 2018 and expected to witness a strong growth at a CAGR of 18- 20% between 2013 - 2018	The government plans to allocate US\$ 70 million for local players to develop Biosimilars
Key Trends	3rd largest global generic API merchant market in 2016, with a 7.2% market share	Double - digit growth expected over the next 5 years	Fragmented market with more than 1000 players	The domestic market is expected to reach US\$ 40 billion by 2030

Source: International Brand Equity Foundation (IBEF);

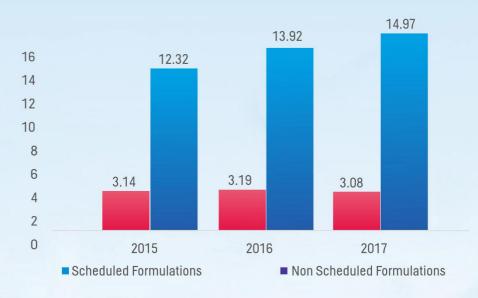
# Indian Pharma sector Revenues On a Ascent (1/2)



Source: International Brand Equity Foundation (IBEF);

# Indian Pharma sector Revenues On a Ascent (2/2)

### Annual turnover of Indian Pharma market (USD billion)



Scheduled formulation " means any formulation , included in the First Schedule whether referred to by generic versions or brand name Nonscheduled formulation" has been defined as a formulation, the dosage and strengths of which are not specified in the First Schedule

Source: International Brand Equity Foundation (IBEF)

# Pharmaceutical Exports from India

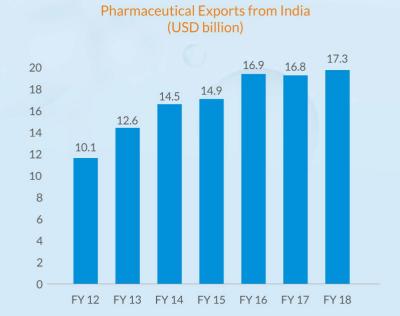
World's largest provider of generic medicines; the country's generic drugs accounts for 20% of global generic drug exports (interms of volumes)

Indian drugs are exported to more than 200 countries in the world, with the US as the key market

Pharma companies are capitalising on export opportunities in regulated and semi-regulated markets

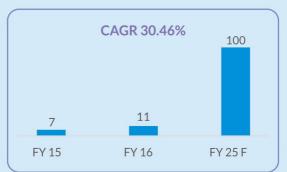
Pharmaceutical exports from India reached USD 17.27 billion in FY18

Source: International Brand Equity Foundation (IBEF)



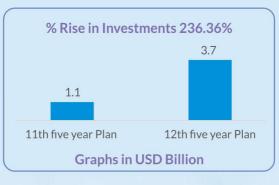
# Biotechnology Sector in India Overview

By FY25, India's biotech industry is estimated to increase to USD 100 billion from USD 7 billion in FY15 & is currently valued at USD 11 billion in FY17



The biotech industry is expected to experience significant growth amid favorable business conditions

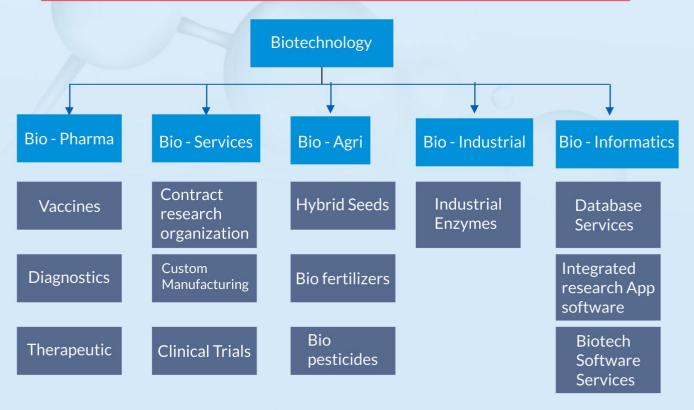
In 12th Five - Year Plan, the government aims to spend USD 3.7 billion on biotechnology compared to USD 1.1 billion in the 11th Five - Year Plan



Increasing government expenditure is likely to augment growth in biotechnology industry

Source: International Brand Equity Foundation (IBEF), Invest in India

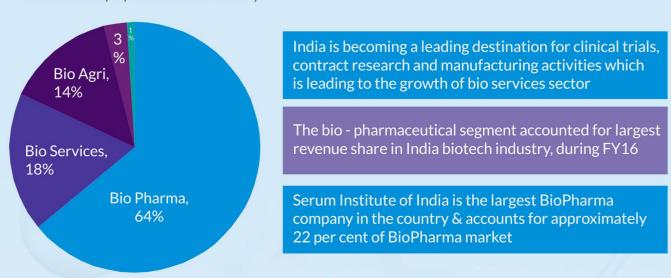
# Biotechnology Major Products & Services in India



Source: International Brand Equity Foundation (IBEF)

### Bio - Pharma Accounts For Majority Market Share And Witnesses Fastest Growth

Market Break up by revenues Bio Industry



Source: International Brand Equity Foundation (IBEF);

# Robust Growth in Biotech Industry

### Market Size USD Billion



Biotech industry comprises about 800 companies and is currently valued at USD 11 billion Fast - developing clinical capabilities with the country becoming a popular destination for clinical trials, contract research and manufacturing activities

Source: International Brand Equity Foundation (IBEF), ABLE - Biospectrum Industry Survey, Makeinindia, Ministry of External Affairs, TechSci Research Global Industry Analysts Report (GIA)



### Favorable Measures by GOI (1/3)

# Pharma Vision 2020

• Pharma Vision 2020 by the government's Department of Pharmaceuticals aims to make India a major hub for end - to - end drug discovery

#### National Biopharma Mission

 The Industry - Academia mission was launched in June 2017 to boost development of biopharmaceuticals in India

# Union Budget 2018 - 19

- The allocation to the Ministry of Health and Family Welfare has increased by 11.5% to INR 52,800 crore (US\$ 8.16 billion)
- The National Health Protection Scheme is largest government funded healthcare programme in the world
- The government has allocated Rs. 1,200 crore (US\$ 185.36 million) towards the National Health Policy 2017 under which 150,000 health and wellness centres, will provide healthcare closer to homes of the people
- The increased expenditure on healthcare is expected to benefit the pharmaceutical sector as well

# Reduction in approval time for new facilities

- Steps taken to reduce approval time for new facilities
- NOC for export license issued in two weeks compared to 12 weeks earlier

### Favorable Measures by GOI (2/3)

# Single - window clearance

 As per NBDS, a proposal has been made to set up the National Biotechnology Regulatory Authority (NBRA) to provide a single - window clearance mechanism for all bio - safety products to create efficiencies & streamline the drug approval process

#### Support for technology upgrades and FDIs

- Government is planning to relax FDI norms in the pharmaceutical sector
- In March 2017, the government decided to create a digital platform to regulate and track the sale of quality drugs, and it can be used by people living in the country as well as abroad

#### Bulk Drug Parks

• Government of India is planning to set up mega bulk drug parks in order to reduce industry's dependency on raw material imports

#### Biotechnology Industry Research Assistance Council

- BIRAC has been established to promote research & innovation capabilities in India's biotech industry. The council will provide funding to biotech companies for technology & product development
- BIRAC under Small Business Innovation Research Initiative (SBIRI) scheme supports innovations in biotechnology

### Favorable Measures by GOI (3/3)

#### National Pharma Policy

- In 2017, the Department of Pharmaceuticals released a draft National Pharmaceutical Policy with the following objectives:
  - Make all essential drugs accessible to masses through affordable prices
  - Provide the Indian pharmaceutical sector with a long term stable policy environment
  - Make India self sufficient in end to end domestic drug manufacturing
  - Maintain world class quality for domestic consumption and exports
  - Create a positive environment for research and development in the pharma sector



# Pharmaceutical Industry - Snapshot

- 5<sup>th</sup> largest pharmaceutical manufacturing state in the country (accounts for over 10% of national production)
- The most active state in ensuring free supply of medicines in government clinics and hospitals
- The state Govt. has identified the drugs and pharmaceutical industry of the state to provide special capital incentives for its substantial growth & development
- Tamil Nadu and Puducherry have companies producing mainly formulations, although there are some bulk drug manufacturers too

Source: International Brand Equity Foundation (IBEF), Indian Pharmaceutical Association



Orchid Chemicals have set up their worlds largest Sterile Antibiotics manufacturing facility with R& D near Chennai

> India's largest Agricultural University with 36 Agro technology research station

> > supporting in Biotech

to reap the benefits of Biotechnology Sector

Abundant intellect & human resource ideally positioned

In healthcare domain, Chennai boasts an impressive array of World class hospitals

Pharma Giants like Pfizer & Chemical giants like Dow chemicals, Orchid Chemicals have their R & D in Chennai







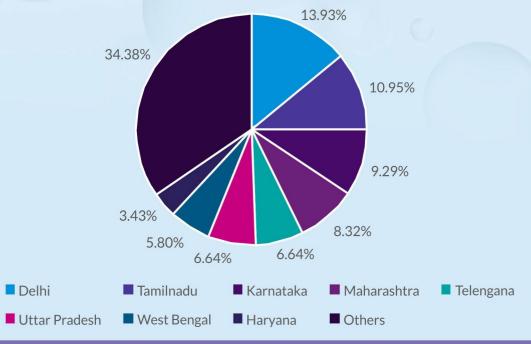




# Biotechnology Sector - Snapshot (2/2)

Tamil Nadu ranks 2nd in total number of Bio - Tech projects Received

State wise Share for Ongoing Number of Bio Tech Project



Centre of Excellence for Biotechnology to come up in Coimbatore at the cost of INR 430 crores

Source: International Brand Equity Foundation (IBEF);

# Pharma Cluster in Chennai region



Source: Maps of India, Google Maps

# Skill Availability Snapshot



Every year around 12,991 Students Graduate with Pharmaceutical & allied Sector Educational Background from Govt. Colleges





48 Colleges provide Various Biotechnology courses in Tamil Nadu





There are 28 Dental Colleges, 48 Medical Colleges & 65 Pharmacy Colleges





Centre for Bio Technology in Anna University helps to promote research & Consultancy activities in various areas of Bio technology



# Research & Development Centres







### Hazardous Waste Treatment Storage and Disposal Facility

- Implemented by Industrial Water Management Association (IWMA) through M/s. Tamil Nadu Waste Management Limited in Tiruvallurdistrict, in order to dispose of hazardous industrial waste by suitably converting the waste
- Spread across 52+ acres of land
- 2600+ industries in Tamil Nadu benefitted

### Upcoming Infrastructure to Promote Pharma & Biotechnology Sector

- SIDCO PharmaceuticalEstate, Alathur
- TICEL Bio tech park II
- TICEL Bio tech park III
- Marine Biotechnology park
- Integrated vaccine complex
- Mediparkwhich is known as first infrastructure initiative of India
- Biotechnology Venture Capital Fund

# Major Players & Key Industries



























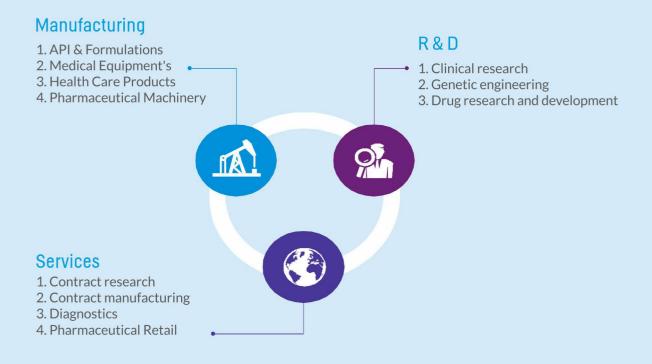






# **Investment** Opportunities

# Investment Opportunity in Pharmaceutical Sector



# Investment Opportunity in Biotechnology Sector

- Vaccines & Recombinant therapeutics
- Bioactive Therapeutics Proteins
- Stem Cell research
- Cell engineering
- Cell based Therapeutics
- Animal Biotechnology
- Contract Research
- Clinical Trials & Outsourcing
- Bioinformatics

- Aqua Culture & Marine
- Agriculture Sector
- Bio Fuels
- Healthcare
- Microbial & Industrial
- Biotechnology
- Environmental
- Biotechnology
- Seri Biotechnology



# Support from Government of Tamil Nadu

- Single Window Clearance will be provided for all biotech R&D & Manufacturing Projects
- Electricity tax exemption will be as per TN Industrial policy 2014
- TN Govt. has allocated INR 5 Billion Capital fund as Biotechnology Venture

Source: TN Biotechnology Policy 2014

# Government Support - Biotechnology Policy 2014 (1/3)

#### R&D

- Creation of Biotechnology
   Centre of Excellence (BCE)
   and acting as common
   facility areas where capital
   equipment and specialized
   expertise will be shared by
   the academia and the
   industry
- A biotech research fund with a corpus of INR 100 crore to begin will be created by the government

#### Biotech IT Park

- Promotion of Bio IT park on PPP mode
- The Bio IT park will be a cluster of science and technical academic institutions, research centres and Technology and Life Sciences

#### **Medical Biotech Clusters**

 The state government will promote Medical Biotechnology Industrial Clusters by amalgamation of biotech talents from different universities, medical centres and institutions

Source: TN Biotechnology Policy 2014

# Government Support - Biotechnology Policy 2014 (2/3)

#### BioTech Parks

- The State government will encourage the development of Biotech Parks which will provide land and plug - and play infrastructure for biotechnology industries
- Such Biotech Parks will be encouraged near Chennai, Coimbatore, Madurai, Tiruchirapalli, Salem and Thoothukudi

Infra for Manufacturing

- The State government along with TIDCO will establish the Tamil Nadu
  Biotechnology Enterprise Zone which will house a Core Biotech Park and a Marine Biotech Park along with specialized services like consulting services, regulatory services, single window facilitation cell and Intellectual Property Rights(IPR) Cell
- Facilitate creation of Special Investment Zones for Biotech manufacturing and R&D activities near Chennai

Source: TN Biotechnology Policy 2014

### Government Support - Biotechnology Policy 2014 (3/3)

#### **Fiscal Incentives**

- Fiscal incentives like capital subsidy and Environment Protection subsidy as per the Tamil Nadu Industrial Policy 2014
- For R&D institutions and contract research organizations, a special capital subsidy of 15% of eligible investment subject INR 5 Crore will be given
- Patent registration subsidy will be provided, restrict to 50% of Patent registration expenses subject to a cap of INR 2 Lakh

Source: TN Biotechnology Policy 2014



GOVERNMENT SUPPORT TO INVESTORS INDUSTRIAL POLICY 2014

Category	Investment Range (INR crores) (Area wise)			
	A Districts (Chennai, Tiruvallur, Kancheepuram)	B Districts (Other than A & C)	C Districts (Southern districts)	
Mega Projects	Above 500 - 1500 and creating an employment of 300 in 3 years	Above 350 - 1000 and creating an employment of 200 in 4 years	Above 200 - 500 and creating an employment of 100 in 4 years	
Super Mega A	Above 1500 - 3000 and creating an employment of 400 in 5 years	Above 1000 - 2000 and creating an employment of 300 in 5 years	Above 500 - 1500 and creating an employment of 250 in 5 years	
Super Mega B	Above 3000 - 5000 and creating an employment of 600 in 6 years	Above 2000 - 4000 and creating an employment of 400 in 6 years	Above 1500 - 3000 and creating an employment of 350 in 6 years	
Ultra Mega	Above 5000 and creating an employment of 700 in 7 years	Above 4000 and creating an employment of 600 in 7 years	Above 3000 and creating an employment of 500 in 7 years	

"Southern Districts" means the Districts of Theni, Dindigul, Madurai, Sivagangai, Ramanathapuram, Virudhunagar,
Tirunelveli, Thoothukudi and Kanniyakumari

### **Standard Incentives**

### **Capital Subsidy**

- Subsidy ranging from INR 30 Lakhs to INR 2.25 crores
- 50% additional subsidy for industries set up in SIPCOT Industrial Parks (other than Southern districts)
- For investments made in B & C category districts, an additional 10% & 25% subsidy for industries located outside the SIPCOT Industrial Parks

### Stamp duty concession

• 50% to industries located in SIPCOT parks in A & B districts and 100% in the case of Southern Districts

### Stamp duty concession

• 50% to industries located in SIPCOT parks in A & B districts and 100% in the case of Southern Districts

### **Environmental Promotion Infrastructure Subsidy**

- Subsidy of INR 30 lakhs or 25% of Capital cost whichever is less
- Apart from the above, Industries adopting Zero Effluent or Waste Water Discharge, Clean Development Mechanism and Emissions Trading Mechanism will be given a higher amount of subsidy

### Electricity tax exemption

 Period of exemption depends upon the quantum of investment and the employment criteria prescribed

### Incentives for Industrial Promotion in Southern Districts

- Higher fiscal benefits
- SIPCOT will allot lands at 50% of the cost in its existing and new industrial parks
- SIPCOT will acquire & allot Land for new ventures in case SIPCOT Industrial parks are not available
- 50% exemption from Stamp Duty for land privately purchased by investors; 100% exemption in case of units in SIPCOT Industrial Parks
- 25% additional back ended capital subsidy; linked to investment and employment in the case of industries located outside SIPCOT Industrial Parks

### **Investment Promotion Facilitators - Key Contacts**

TN Industrial Guidance and Export Promotion Bureau 19-A, Rukmani Lakshmipathy Road, Egmore, Chennai-600 008 Phone: 91-44-2855 3118 Website: www.investingintamilnadu.com

Tamil Nadu Industrial Development Corporation Limited (TIDCO) 19-A, Rukmini Lakshmipathy Road, Egmore, Chennai-600 008 Phone: 91-44-2855 4421 E-mail: cmd.tidco@nic.in Website: www.tidco.com

Tamil Nadu Industrial Investment Corporation Limited (TIIC) New no: 692, Anna Salai, Nandanam, Chennai-600 035 Phone: 91-44-2433 1203 Fax: 91-44-2434 7209 E-mail: ho@tiic.in

Website: www.tiic.org

Website: www.elcot.in

Electronics Corporation of Tamil Nadu Limited (ELCOT) 692, M.H.U. Complex, II Floor, Anna Salai, Nandanam, Chennai-600 035 Phone: 91-44-6551 2330 E-mail: secyit@tn.nic.in State Industries Promotion Corporation of Tamil Nadu (SIPCOT)
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Website: www.tnuifsl.com

Tamil Nadu Small Industries
Development Corporation (TANSIDCO)
Thiru Vi Ka Industrial Estate,
Chennai - 600 032
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2250 0185, E-mail: sidco@vsnl.com
Website: www.sidco.tn.nic.in