



June 18, 2021

**BSE Limited**  
P. J. Towers  
Dalal Street,  
Mumbai - 400 001

**National Stock Exchange of India Limited**  
Exchange Plaza  
Bandra Kurla Complex  
Bandra (E),  
Mumbai - 400 051

Dear Sirs,

**Sub.: Investors' Presentation for Investor and Analyst Meet of Jubilant Pharmova Limited**

In continuation of our letter dated June 10, 2021, we enclose presentation to be made at Investor and Analyst Meet on June 18, 2021.

This is for information and record.

Thanking you,

Yours faithfully,  
For Jubilant Pharmova Limited

Rajiv Shah  
Company Secretary

Encl.: as above

A Jubilant Bhartia Company

OUR VALUES



**Jubilant Pharmova Limited**

1-A, Sector 16-A,  
Noida-201 301, UP, India  
Tel: +91 120 4361000  
Fax: +91 120 4234895-96  
[www.jubilantpharmova.com](http://www.jubilantpharmova.com)

Regd Office:  
Bhartiagram, Gajraula  
Distt. Amroha - 244 223  
UP, India  
CIN : L24116UP1978PLC004624



**JUBILANT  
PHARMOVA**

## Analyst Day Presentation

June 2021

# Disclaimer



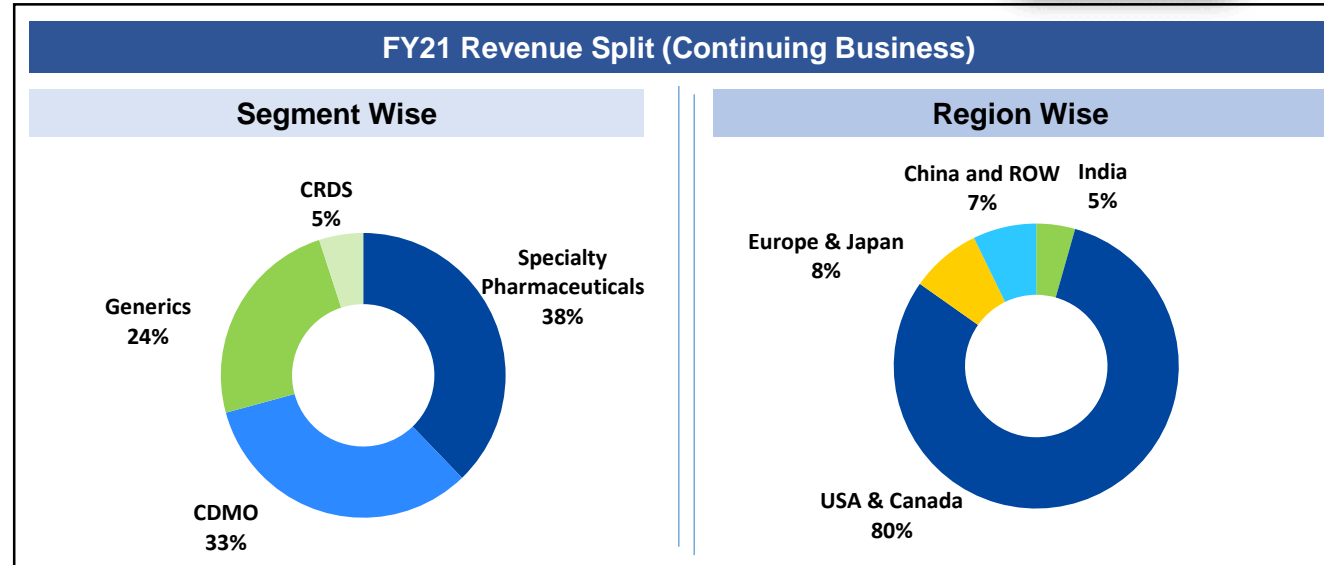
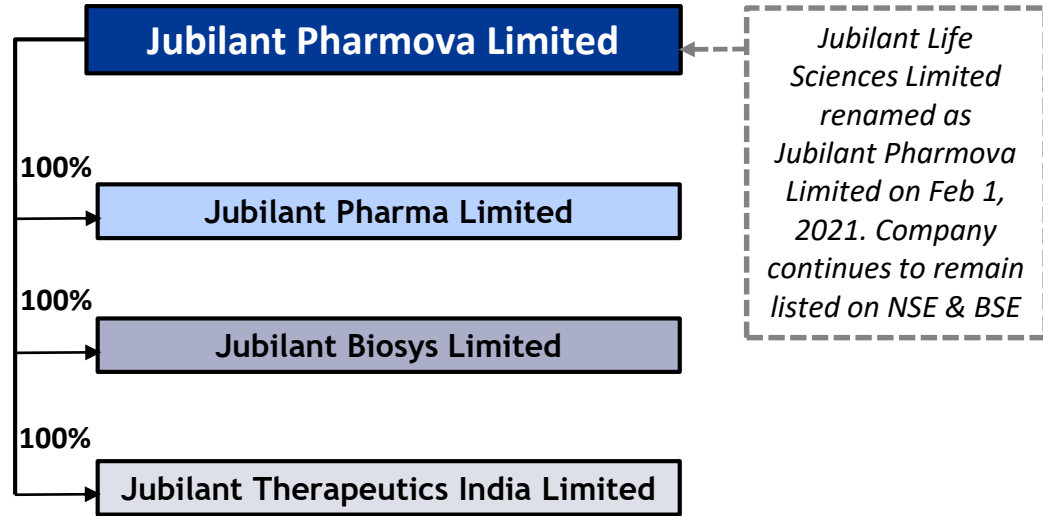
Statements in this document relating to future status, events, or circumstances, including but not limited to statements about plans and objectives, the progress and results of research and development, potential product characteristics and uses, product sales potential and target dates for product launch are forward looking statements based on estimates and the anticipated effects of future events on current and developing circumstances. Such statements are subject to numerous risks and uncertainties and are not necessarily predictive of future results. Actual results may differ materially from those anticipated in the forward-looking statements. Jubilant Pharmova may, from time to time, make additional written and oral forward looking statements, including statements contained in the company's filings with the regulatory bodies and our reports to shareholders. The company assumes no obligation to update forward-looking statements to reflect actual results, changed assumptions or other factors.

# Agenda

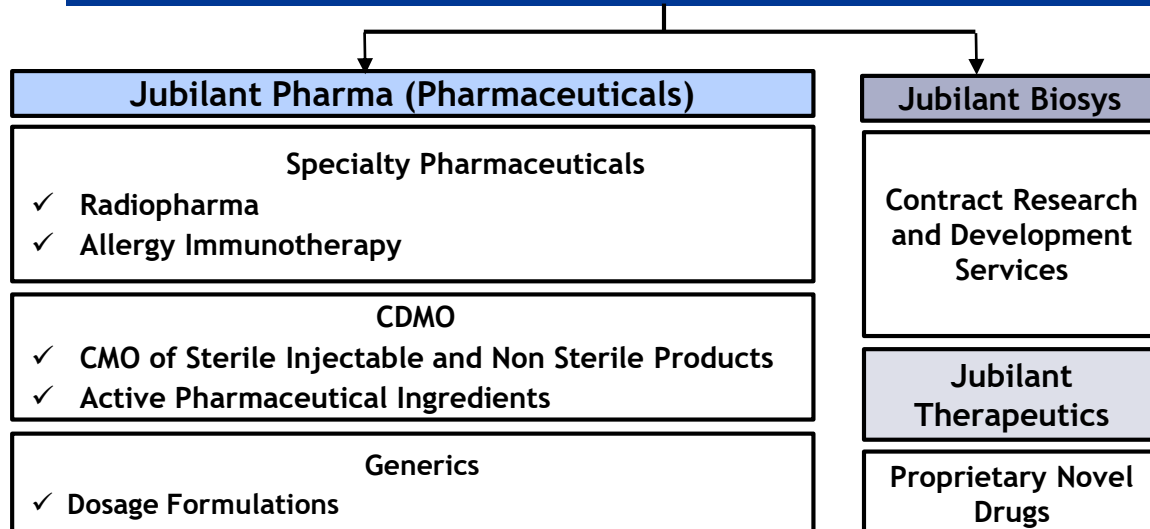


| Topic                                      | Presenter                           | Designation   |
|--|-------------------------------------|---|
| Initial Address                            | Mr Shyam Bhartia, Mr Hari Bhartia   | Chairman and CCMD   |
| GCFO address                               | Mr Arvind Chokhany                  | Group CFO   |
| Jubilant Pharma, Evolution and Strategy    | Mr Pramod Yadav                     | CEO, Jubilant Pharma  |
| Radiopharma                                | Mr Sergio Calvo                     | President, Radiopharmaceuticals                             |
| Allergy                                    | Mr Chris Preti                      | President, ABU  |
| CMO  | Mr Amit Arora                       | President, CMO  |
| API  | Mr Gunjan Singh                     | Head, API business  |
| Generics                                   | Mr Terry Fullem<br>Mr Jasdeep Singh | President, Jubilant Cadista<br>President, Generics (Non-US) |
| Jubilant Pharma Financials                 | Mr Christopher Krawstchuk           | CFO, Jubilant Pharma  |
| Contract Research and Development Services | Mr Marcel Velterop                  | President, Jubilant Biosys                                  |
| Proprietary Novel Drugs                    | Dr Syed Kazmi                       | CEO, Jubilant Therapeutics                                  |
| Jubilant Pharmova Financials               | Mr Arun Sharma                      | CFO, Jubilant Pharmova                                      |
| Q&A  | Jubilant Pharmova Team              |   |

# Jubilant Pharmova Limited – Overview



## Business Structure



## Key Highlights

- **US\$ 820 million integrated global pharmaceuticals, and contract research company**
- **Strong position** in Specialty Pharmaceuticals – radiopharmaceuticals, allergy immunotherapy and CMO of Sterile Injectables & Non-Sterile products
- One of the leading India based Contract research and development companies
- Proprietary business has strong portfolio of programs in the areas of oncology and auto immune disorders
- **6 US FDA approved mfg. facilities** including 4 in North America and 2 in India; 2 world class facilities in India for contract research
- Employs ~5,800 people globally, including over 2,300 in North America

# Jubilant Pharmova – Business Overview



## Pharmaceuticals

### Specialty Pharmaceuticals

- 1 Radio pharma
- #3 radiopharmaceutical manufacturer in the US
  - Manufacturing facility based in Montreal Canada
  - # 2 commercial radiopharmacy network in the US with 48 radiopharmacies spread across 22 states in the US

- 2 Allergy Immuno-therapy
- #2 player in the allergenic extract market in the US
  - Sole supplier of venom in the US
  - Manufacturing facility at Spokane, Washington, USA

### CDMO

- 1 CMO
- Fully integrated leading contract manufacturer
  - Integrated with Radiopharma business as supplier of cold kits
  - Manufacturing facilities in Spokane, US and Montreal, Canada

- 2 API
- Manufacturing facility at Nanjangud, India
  - ~60% of API sales are to regulated markets
  - Leading market share in key products in the US

### Generics

- 1 Dosage Formulations
- Manufacturing facilities at Roorkee, India and Salisbury, US
  - Market leadership in select key products in the US
  - Vertical integration into API business

## Contract Research and Development Services

- Fully integrated Drug Discovery services provider
- Facilities in Noida and Bangalore
- Provides Drug Discovery services to global innovators with focus on US, EU and Japan.

## Proprietary Novel Drugs

- Developing first-in-class and best in class programs in the area of oncology and autoimmune disorders
- Four of the assets under development are at an advanced pre-clinical stage and would transition to clinics early next year

# Experienced Management Team



**Shyam S Bhartia**  
Chairman  
41 industry years in pharma, specialty chemicals, foods, oil and gas, aerospace and IT



**Hari S Bhartia**  
Co-Chairman & Managing Director  
35 industry years in pharma, specialty chemicals, foods, oil and gas, aerospace and IT



**Arvind Chokhany**  
Group Chief Financial Officer  
25 years of Industry Experience



**Rohini Seth**  
Group Chief Human Resources Officer  
25 years of industry experience



**Ajay Khanna,**  
Group Chief Strategic & Public Affairs  
37 years of industry experience

## Pharma

## Contract Research and Development Services

## Proprietary Novel Drugs



**Pramod Yadav**  
CEO - Jubilant Pharma  
34 years of Industry Experience



**Marcel J Velterop**  
President – Jubilant Biosys  
30 years of Industry Experience

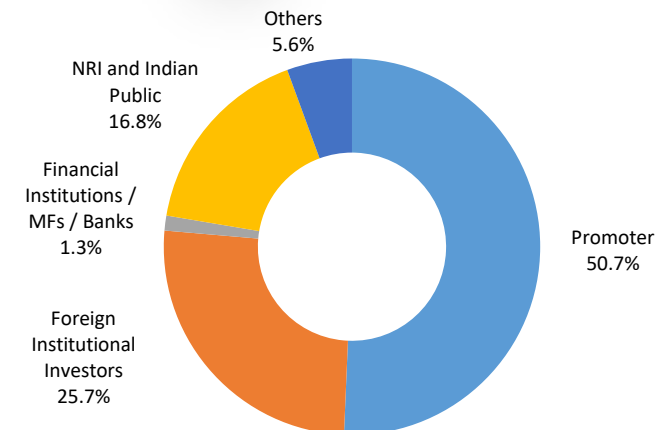


**Syed Kazmi**  
President & CEO – Jubilant Therapeutics  
28 years of Industry Experience

## Jubilant Vision

- ✓ To acquire and maintain global leadership position in chosen areas of businesses
- ✓ To continuously create new opportunities for growth in our strategic businesses
- ✓ To be among the top 10 most admired companies to work for
- ✓ To continuously achieve a return on capital of at least 10 points higher than the cost of capital

## Shareholding Structure

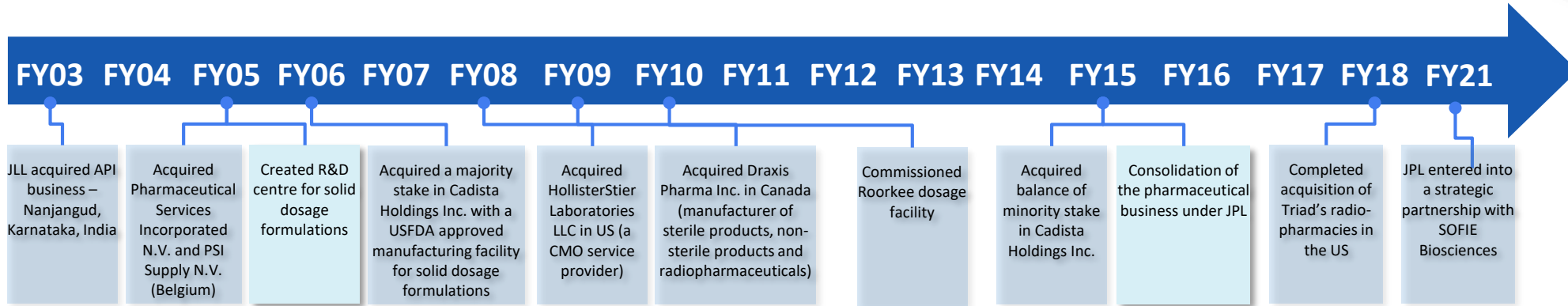


## Pharmaceuticals Business - Jubilant Pharma

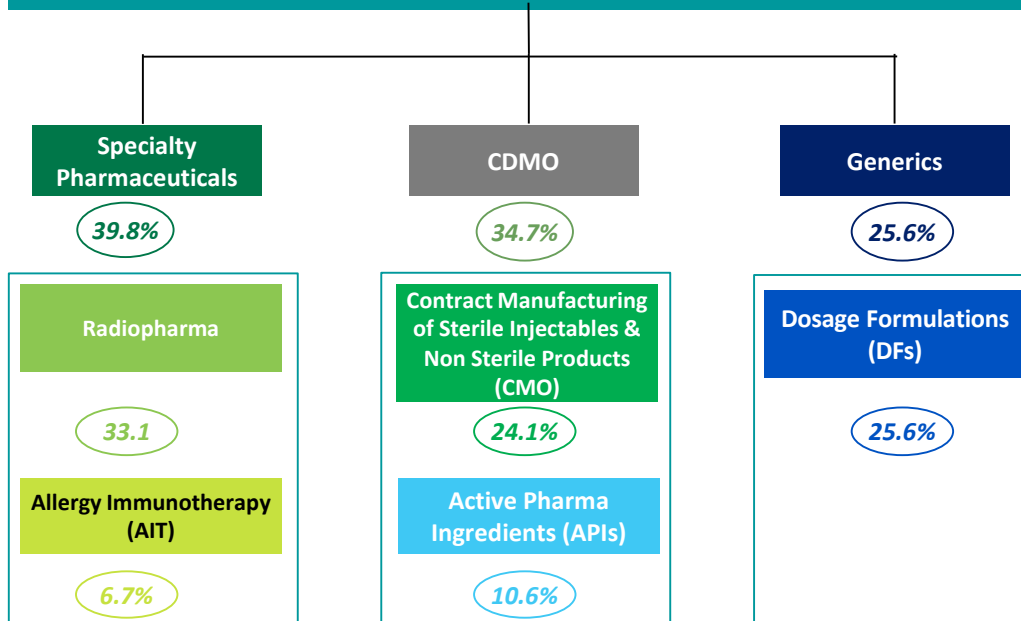




# Pharmaceuticals Business Structure and Evolution: Strong M&A track record



## Pharmaceuticals Business Structure



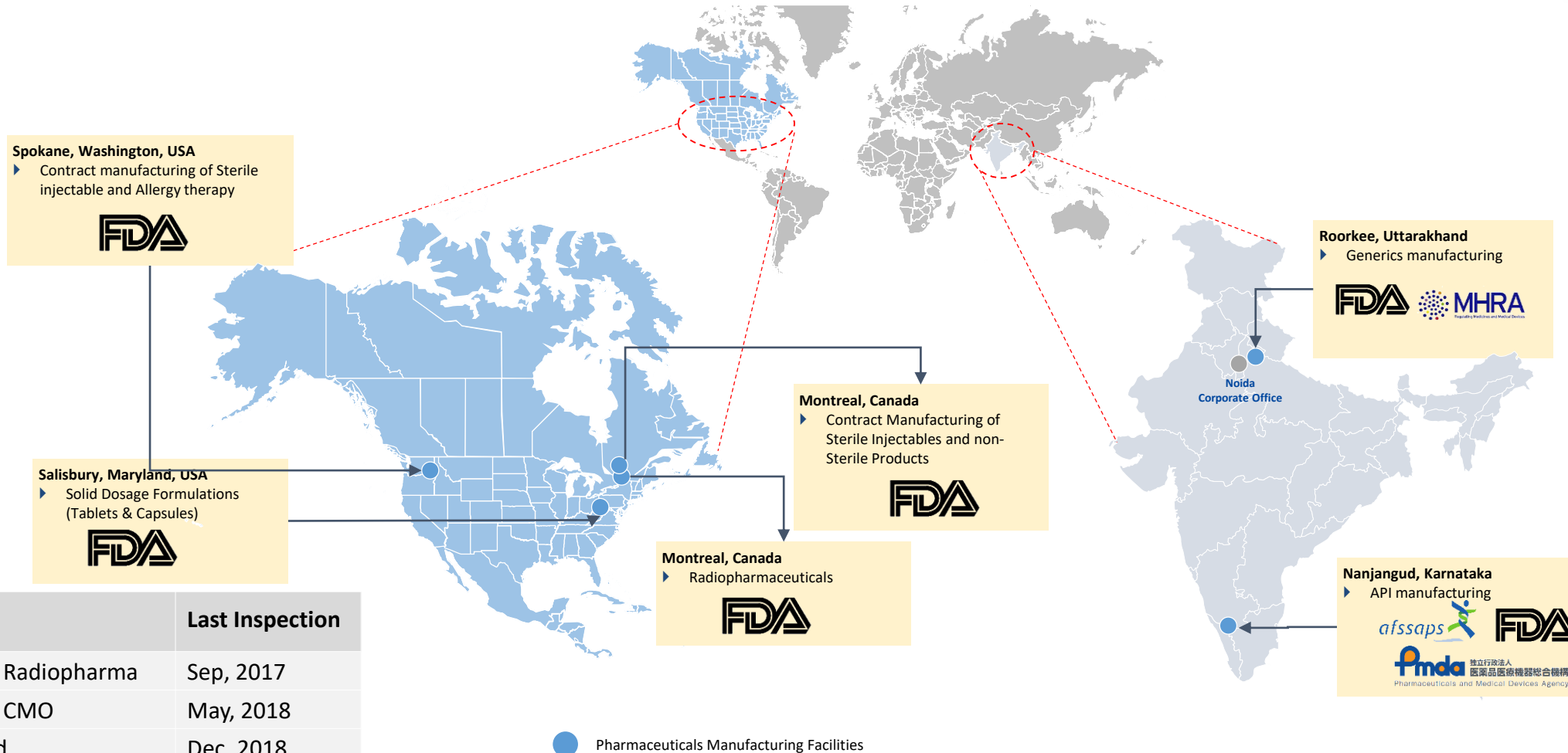
## Key Business Highlights

- 80%+ revenues from North America
- 6 Manufacturing facilities in the US, Canada and India
- Strong R&D capabilities
- Over 80 countries served
- Long-standing customer relationships
- c.40% supplies from top 10 suppliers
- c.32% revenues derived from top 10 customers<sup>(1)</sup>
- Highly qualified and dedicated Board; Experienced management team
- c.30% revenues derived from top 10 products
- c.5,200 employees Worldwide of which c.2,300 in North America <sup>(2)</sup>

% of Pharma Business FY20 Revenue

(1) Excluding GPOs but including customers purchasing goods and services through such GPOs  
 (2) Data as of and for the period ending March 31, 2020

# High-Quality Manufacturing Footprint



| Facility              | Last Inspection |
|-----------------------|-----------------|
| Montreal, Radiopharma | Sep, 2017       |
| Montreal, CMO         | May, 2018       |
| Nanjangud             | Dec, 2018       |
| Salisbury             | Feb, 2020       |
| Spokane               | Mar, 2021       |
| Roorkee               | Mar, 2021       |

4 US FDA approved manufacturing facilities in North America and 2 USFDA approved manufacturing facilities in India

# Each of the 6 businesses operate in growing markets with considerable headroom for growth



| Segments  | Business Units        | Market Dynamics   | Market Size, \$Bn   | Growth Outlook |
|---|-----------------------|---|---------------------|----------------|
| <b>Specialty Pharmaceuticals</b><br><br><i>Niche US focused businesses with high barriers to entry requiring front-end presence</i> | Radio-pharmaceuticals | <b>High barriers to entry</b> (complex manufacturing, customer stickiness, and stringent regulations) and <b>limited price erosion</b>  | Niche<br>\$8-\$9 Bn | 6-8%           |
|   | Radio-pharmacies      | <b>High barriers to entry</b> (regulatory, complex supply chain); <b>long term customer contracts</b>   |                     | 3-5%           |
|   | Allergy               | <b>High barriers to entry</b> (complex supply chain, high customer switching costs, regulatory barriers) and <b>concentrated market</b>   |                     | 3-4%           |
| <b>CDMO</b><br><br><i>Operations oriented businesses requiring cost and quality leadership, robust BD, agile R&amp;D</i>            | CMO                   | <b>Tailwinds</b> due to <b>shortage of injectable</b> capacity (Especially with vaccines); <b>entry barriers</b> due to emphasis on <b>quality, supply, capital investments</b>   | Medium<br>\$5-25 Bn | 6-8%           |
|   | API                   | <b>Tailwinds</b> such as <b>disruptions in China, favorable policy reforms</b> , shift in demand towards <b>complex APIs</b>  |                     | 7-8%           |
| <b>Generics</b><br><br><i>Businesses requiring ability to identify, develop and launch niche products</i>                           | Dosages               | <b>Improved outlook in US generics</b> due to <b>increased Loss of Exclusivity opportunity and stabilization of past trends</b> (e.g., saturation of Generics substitution) and stable de-risked growth at an aggregate level across non-US markets | Large<br>>\$25 Bn   | 6-7%           |

# Each of the six businesses are at different stages of evolution



## Stages of Evolution

### Sustain Momentum

*Maintain growth rates and protect margins to generate cash*

#### Radiopharmaceuticals

Protect leadership in stable, highly profitable products like MAA, DTPA, and scale/ launch innovative growth engines like Ruby-fill

#### Allergy

Leverage sole supplier status of venom AIT in US to build volumes, expand venom to large international markets

#### CMO

Sustain momentum with top customers, expand capacity of sterile fill & finish at Spokane by 50% by CY24 and new Ophthalmic line at Montreal in FY23

### Scale-up

*Leverage robust platforms and market tailwinds to drive profitable growth*

#### API

Leverage leadership position in niches, investment in high growth pipeline and customer relationships with continued focus on cost improvement

#### Generics

*US:* Scale current toe-hold with on-time launch of robust pipeline, on-shore manufacturing and EBITDA improvement measures  
*Non US:* Scale seeded-in emerging markets with new product launches

### Turnaround

*Restructure for profitability*

#### Radiopharmacies

Transform performance by growing revenues with key IDN/ GPO contracts, strategically expanding footprint and driving operational efficiencies

# Looking ahead, markers are in place for sustained/accelerated growth across portfolio



## Stages of Evolution

### Sustain Momentum

*Maintain growth rates and protect margins to generate cash*

#### Radiopharmaceuticals

**Encouraging traction in Ruby-fill** post launch, **I-131 MIBG in Phase 2/3 trials**, market potential **\$240 Mn.**

R&D pipeline of **\$300 Mn** market size

**Theranostic pipeline under partnerships**

#### Allergy

Partnerships in place with global distributors for launch in international markets like Canada, Korea. In-licensing opportunities in the pipeline for adjacent products

### Scale-up

*Leverage robust platforms and market tailwinds to drive profitable growth*

#### API

**Customers seeded-in** for pipeline products, debottlenecking capacity at Nanjangud by **>30%** and **evaluating new greenfield site.**

#### Generics

**US: 37 pending ANDAs** including high barrier products; **enhance local US facility** to capture "Make in US"

**Non US:** Exploring various US products into **focused Pharmerging markets** with business models including front end.

#### CMO

**To cater increasing demand, further Capacity expansion** at Spokane to double sterile fill and finish capacity from current levels, at Montreal expand sterile injectables, and one more multi-dose preservative free ophthalmic solutions with commercialization planned in next 4 years

### Turnaround

*Restructure for profitability*

#### Radiopharmacies

Embarking on executing turnaround plan with an **aspiration set to achieve mid to high single digit EBITDA**

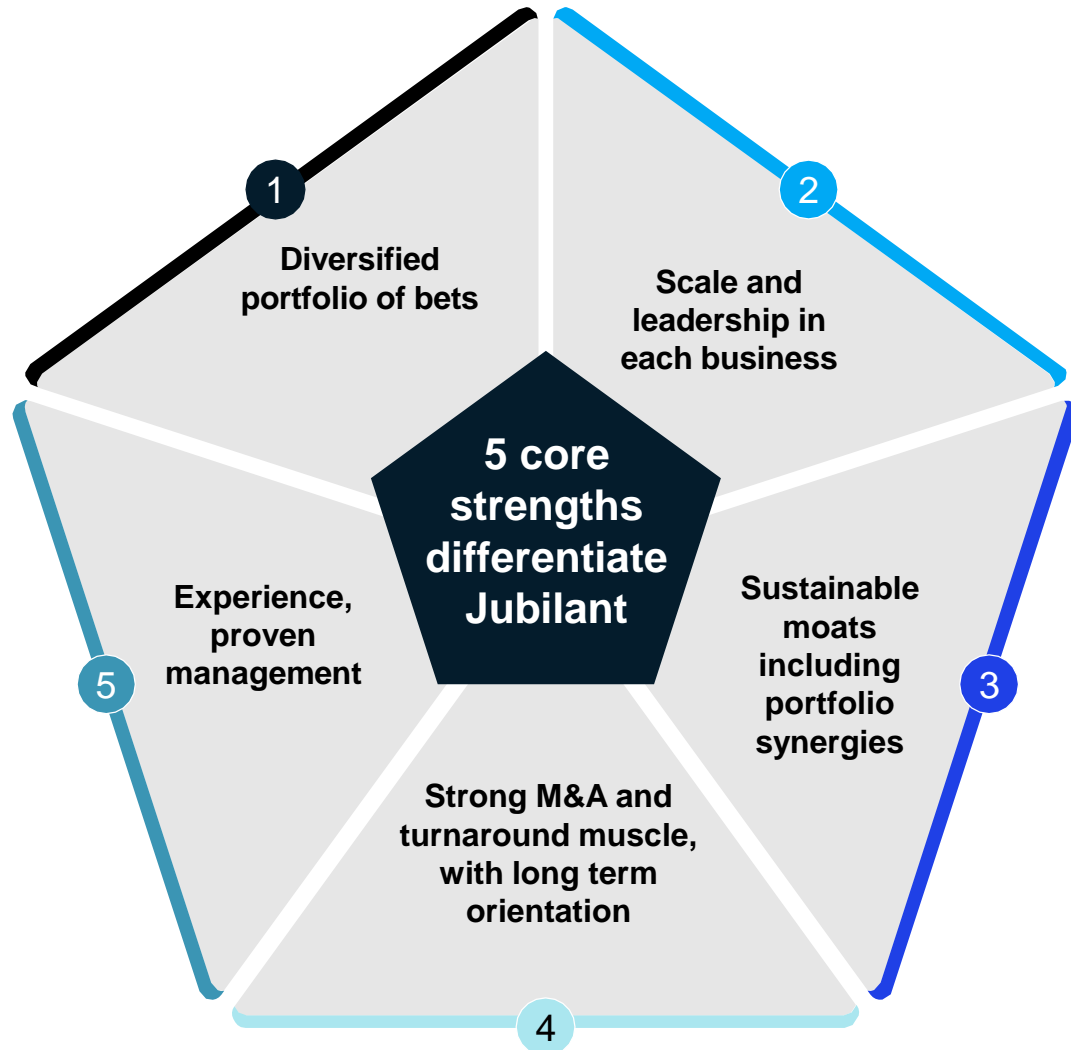
Several **foundational capabilities** already put in place (e.g., strong leadership, IT infra., quality systems)

**Partnership with SOFIE** to provide unique positioning to grow in PET diagnostics

**Commercial engine** in place to win large contracts with regional / national IDNs

**Strategic footprint expansion** to improve serviceability for larger accounts

# Sustained out-performance to be driven by five key differentiators



- Businesses with **different market dynamics and stage of evolution**
  - US-centric front-end and manufacturing help drive innovation and is supported by robust operations from India
- **Specialty businesses have leadership in the US that we plan to continue to grow by in-house R&D and strategic partnerships**
  - **CMO, API, Generics** have leadership in **specific molecules / platforms**. We plan to enhance our presence in complex molecules via addition of manufacturing capabilities
- **Most business segments have high differentiation** (e.g. entry barriers, long term customer relationships) that allow us to surpass competition
  - **Portfolio synergies** (e.g. Dosages vertical integrated with API, CMO manufactures for Radiopharmaceuticals and Allergy, Radiopharmacies is a distribution channel for Radiopharmaceuticals) help us to optimize costs
- **Successful M&A** integral to each of the business journeys
  - Expertise in identifying and integrating assets, followed by **turnaround and scale-up** (e.g. CMO and Allergy turnaround in the last 5 years)
  - Expand innovative pipeline via partnerships
- **Strong and stable leadership** with deep understanding of the industry
  - Each business led by an experienced leader and team with proven track record

## Business and Industry Overview



A worker in a white protective suit and yellow gloves is working in a cleanroom. The worker is standing next to a large stainless steel piece of equipment, possibly a reactor or a large container. The cleanroom is filled with various pieces of stainless steel equipment, including pipes, valves, and containers. The lighting is bright and even, highlighting the clean and sterile environment.

## Radiopharma –

- Radiopharmaceuticals
- Radiopharmacies



# Nuclear Medicine Plays a Major Role in the Diagnostic and Treatment of the Most Challenging Diseases



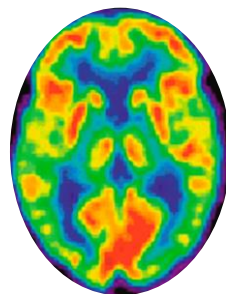
- Nuclear medicine uses radioactive drugs, also known as **radiopharmaceuticals**, to diagnose and treat disease.
- Over 40 million\* nuclear medicine procedures are performed per year globally, of which 20M in the US.
- Traditional radiology (X-Ray, CT and MRI) visualize anatomy. nuclear medicine images physiology.
- There are three types of nuclear medicine procedures:
  - SPECT Imaging
  - PET Imaging
  - Radiopharmaceutical

## Anatomy vs Physiology



MRI Image of the Brain

Anatomical images show the shape, size and density of tissues.



Nuclear Medicine scan of the brain

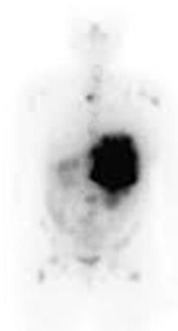
Physiological images answer questions like: are the cells active?

## SPECT Imaging



Gamma Camera (or SPECT Scanner)

SPECT: Single-photon Emission Computed Tomography



Neuroendocrine cancer imaged with  $^{111}\text{In}$ -Pentetreotide

## PET Imaging



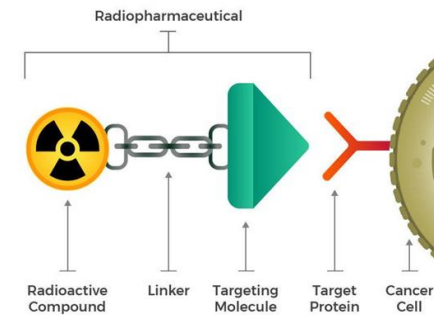
PET Scanner

PET: **Positron Emission Topography**



Neuroendocrine cancer imaged with  $^{68}\text{Ga}$ -DOTATATE

## Radiopharmaceutical therapies



**Theragnostics** is the combination of imaging and therapy with the same target but different radioisotopes

# Radiopharmaceuticals – Value Chain and Competitive Landscape in the US

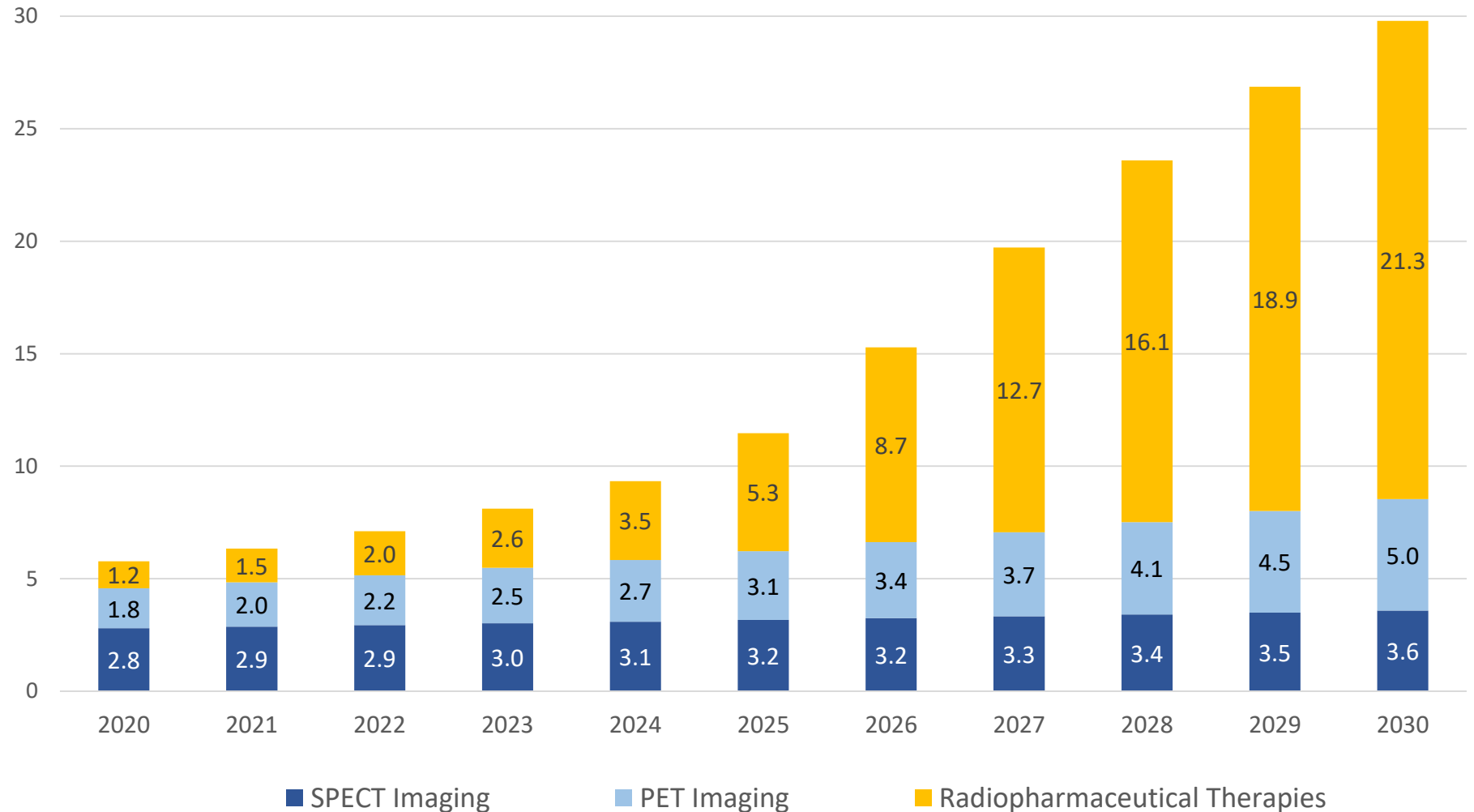


# Radiopharmaceuticals – Global Market



- The radiopharmaceutical therapeutics market will exceed the imaging market in 2026, and grow faster in the second half of the decade
- The SPECT market will continue to grow slowly, but will remain a strong business opportunity
- PET procedures will grow driven by prostate, cardiac, amyloid imaging
- Over the coming years, hospitals and cancer centers will create radionuclide therapy programs

USD Bn

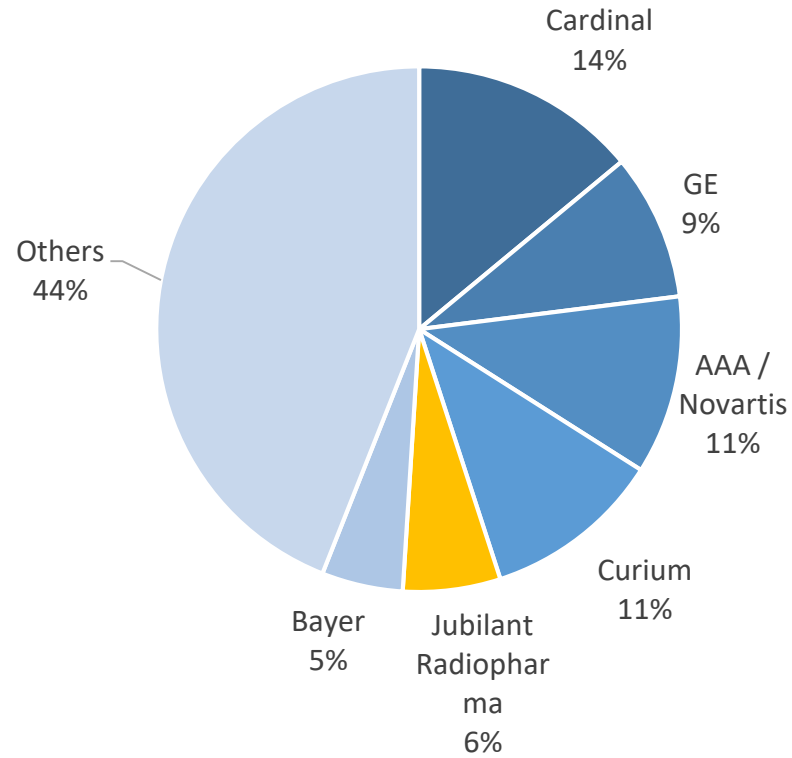


# Radiopharmaceuticals – Market Share

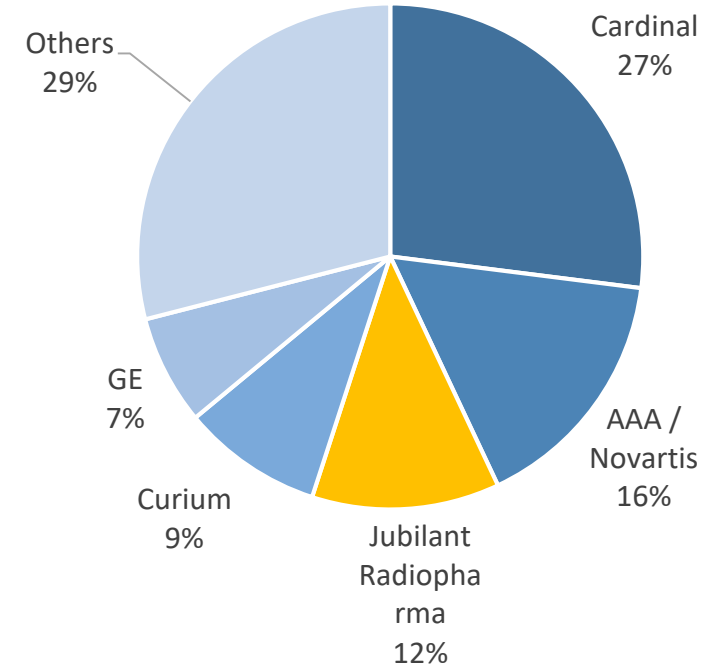


- There are more than 80 sizeable companies in the nuclear medicine market
- There are over 100 companies developing and still not yet selling radiopharmaceuticals.
- Major players are acquiring smaller companies and investing in potential blockbuster products.
- Major changes since 2017:
  - AAA (Novartis) gained third place with Lutathera
  - Curium acquired Mallinckrodt
  - Jubilant reached fifth place with Triad Isotopes

Global Market in 2020  
US\$ 5.5 Billion



USA Market in 2020  
US\$ 2.7 Billion



# Radiopharmaceuticals – Business Overview



- Founded in 1955, acquired by Jubilant Pharma in 2008
- Headquartered in Montreal, Canada
- Specializes in developing, manufacturing and commercializing SPECT, PET and radiopharmaceutical therapies
- 14 products approved in 22 countries
- Long-term contracts with large commercial radiopharmacies, hospitals and standalone imaging centers

## Uncompromised Quality

- The essence of Jubilant Radiopharma is a **commitment to the highest quality**. Our manufacturing facilities are cGMP compliant and ISO 13485 certified.
- This **highly specialized manufacturing site** is overseen by several regulatory agencies including: The US Food and Drug Administration (FDA), Health Canada (HC), Canadian Nuclear Safety Commission (CNSC), and others



## Innovation Leadership

- **#3 radiopharmaceutical manufacturer** in the US based on revenue
- **Market leader in lung functional imaging and thyroid targeted radiotherapeutics** in North America
- **Innovation leader in PET cardiac imaging** with the unique RUBY-FILL® Rb-82 Elution System
- **Avant-garde clinical program** for the treatment of **neuroblastoma**



# Radiopharmaceuticals – Portfolio



Diagnostic

- Brain Imaging**  
*DTPA*  
*Glucaptate*
- Thyroid Imaging**  
*Iodine I-131*
- Myocardial Perfusion**  
*Sestamibi*  
*RUBY-FILL Rb-82*  
*Glucaptate*
- Pulmonary**  
*MAA*  
*DTPA*
- Kidney Imaging**  
*DTPA*  
*Glucaptate*
- Skeletal-Bone**  
*MDP*
- WBC/Infection**  
*Exametazime*



**Thyroid Disorders and Cancers**  
*Iodine I-131*

**Neuroblastoma**  
*I-131 MIBG\**

Therapeutic

\* I-131 MIBG for Neuroblastoma is in clinical trials and is not approved in the United States

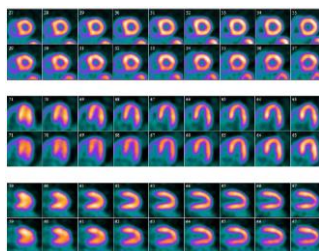
# Radiopharmaceuticals – Key Products



## RUBY-FILL®

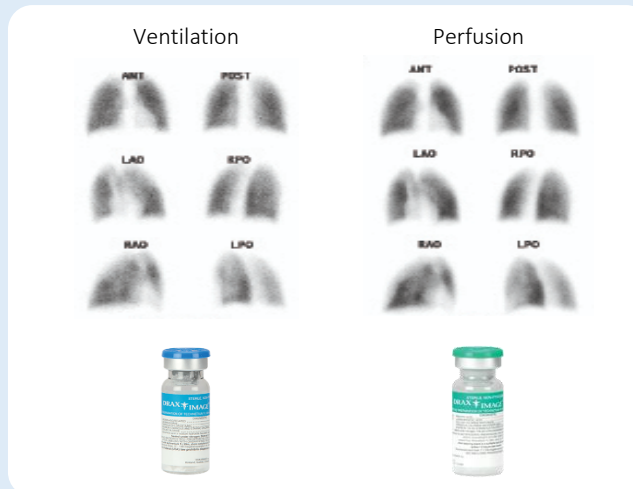


Myocardial Perfusion PET



- Rb-82 Chloride is used to non-invasively image and evaluate the myocardial perfusion in adult patients with suspected or existing coronary artery disease.
- The RUBY-FILL® Elution System and Rubidium Rb-82 Generator is clinically proven to deliver industry-leading efficiency with reliable consistency and dosing flexibility.<sup>[1]</sup>

## DRAximAGE® MAA and DTPA



- Used primarily to diagnose pulmonary emboli (PE), a VQ scan is an imaging test that uses a ventilation (V) scan to measure air flow and a perfusion (Q) scan to see where blood flows in the lungs.
- Jubilant is the North American leader in MAA (perfusion) and DTPA (ventilation).

## Theranostics Iodine-131



- Radioactive iodine, such as iodine-131, is captured by the thyroid. When it accumulates in thyroid cells, it releases radiation that can be used for diagnostic purposes that will destroy these cells.
- HICON® is a radioactive therapeutic agent indicated for the treatment of hyperthyroidism and selected cases of carcinoma of the thyroid.

[1] Renaud JM et al, JNM 2018;59 (suppl 1):1045.; and Ahmadi, A. et al J. Nucl. Cardiol. (2020).

# Radiopharmaceuticals – Moving Further Towards Innovation



| Use Case       | SPECT Imaging and Therapeutic Iodine          | PET Imaging   | Theranostics   |
|----------------|---|---|--|
| Key products   | MAA, DTPA, I-131, Exametazime, MDP, Sestamibi | RUBY-FILL   | I-131 MIBG, novel imaging tracers and therapeutic agents                   |
| Growth Outlook | Stable, profitable niche with steady growth   | High growth segment; driven by proprietary technology | High growth segment; Expand into rapidly growing indications like Oncology |





# Radiopharmaceuticals – Expanding Our Playfield



2020

Served Market  
US\$ 400M

2025

Market Potential  
> US\$ 1.5B

2030

Market Potential  
> US\$ 5B

## Current Portfolio

- MAA
- DTPA
- MDP
- Sestamibi
- Exametazime
- Glucoptate
- Iodine-131
- RUBY-FILL (North America)

## Planned and Under Execution

- New Generics
- RUBY-FILL (Global Market)
- I131-MIBG for neuroblastoma
- New Proprietary Tracers through partnerships
  - Prostate
  - Amyloid plaque
  - Fibroblast Activate Protein (FAP)

## Under Development

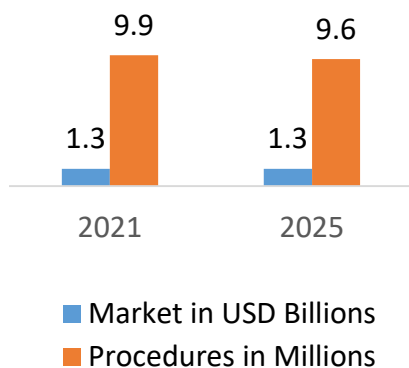
- Proprietary radiopharmaceutical therapies

# Radiopharmaceuticals – Strategy Going Forward



## Expand the Core Portfolio

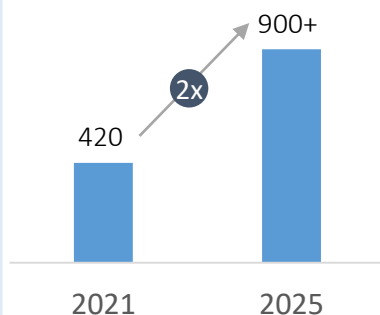
SPECT Market in the USA<sup>[1]</sup>



- The SPECT market will remain strong in the next decade.
- Jubilant Radiopharmaceuticals has an extensive pipeline of SPECT tracers under development

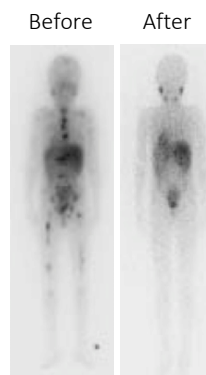
## Grow the Cardiac PET market

Cardiac PET Procedures in the World in Thousands<sup>[1]</sup>



- RUBY-FILL is a market shaping product in a growing market, which is expected to double in 5 years.
- We plan to grow our market share and install RUBY-FILL elution systems in 27 countries in the same period.

## I-131 MIBG<sup>[2]</sup> for Neuroblastoma



Five-year old child with neuroblastoma stage 4 treated with I-131-mIBG<sup>[3]</sup>

- Approximately 800 patients are diagnosed with Neuroblastoma every year, mostly children.
- Jubilant is conducting two clinical trials for I-131-MIBG, a unique approach under evaluation for first-line and later stage treatment. NDA targeted for 2023.

## Strategic Partnerships



- Jubilant is a strategic partner and largest shareholder of SOFIE Biosciences.
- Jubilant Radiopharma entered into a strategic partnership with and Isotopia Molecular Imaging

## Inorganic Opportunities

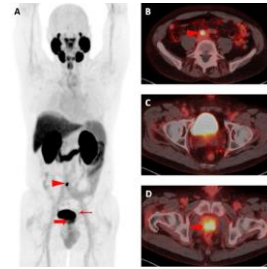


- Acquisition of companies around the world working on innovative SPECT/PET products
- In-licensing of diagnostic and therapeutic products

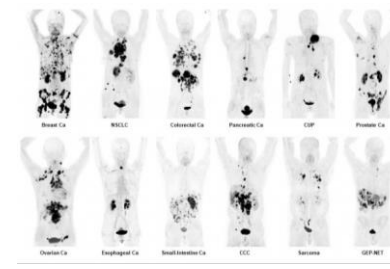
# Jubilant Radiopharma acquired 25% of equity holding and became a strategic partner to SOFIE Biosciences



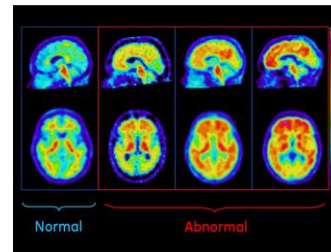
- 14 commercial radiopharmacies in the United States focused on PET tracers.
- Third largest supplier of FDG in the United States
- State-of-the-art CMO facility for radiopharmaceutical therapeutics
- Manufacturing and distribution agreement for Lantheus **PYLARIFY®** (piflufolastat F-18), a PSMA-targeted imaging agent for prostate cancer
- Exclusive manufacturing and distribution agreement (in specific geographies) for Life-Molecular **Neuraceq™**, an amyloid imaging tracer
- SOFIE owns 70% of the rights of family the FAP-targeted drugs licensed from University of Heidelberg.



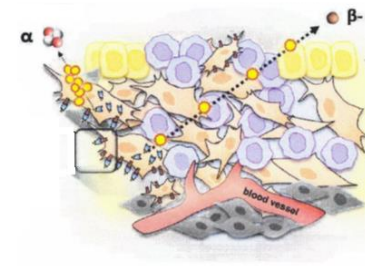
PSMA-targeted prostate imaging is a the fast growing PET scan



FAPI-PET can image 90% of solid tumors with high tumor-to-background ratio\*



Amyloid PET imaging is bound to grow fast with the approval of Biogen's treatment for Alzheimer's disease



FAPI Therapies (sub-licensed to Novartis) may revolutionize cancer treatment of solid tumors

### Synergies with Jubilant

- Complementary portfolio of SPECT and PET imaging tracers
- One-stop shop for customers to acquire a full library of nuclear medicine products
- Optimized logistics, distribution and geographical coverage
- Joint scientific advisory boards and committees
- Shared strategic investments in new developments
- Complementary skills in R&D for the development of breakthrough therapeutic applications

\* Based on extensive scientific literature on file. FAPI tracers are under development at pre-clinical stage.

# Jubilant Radiopharma entered into a strategic partnership with and Isotopia Molecular Imaging



- Isotopia Molecular Imaging, based in Israel, is a leading company in the field of nuclear medicine diagnostic and therapies.
- One of the largest worldwide supplier of <sup>177</sup>- Lutetium.
- **isoPROtrace** kit for labeling of PSMA-11 with Ga68 in 5 Minutes.
- FDA-certified sterile plant that manufactures a variety of nuclear medicine products to local and international markets.
- World-class multidisciplinary team consisting of nuclear pharmacists, radiochemists, nuclear engineers, and physicists.
- Collaborations with the medical community to further develop nuclear medicine imaging and therapies.



Lutetium-177 (<sup>177</sup>Lu) is one of the radionuclide with highest potential in radiopharmaceutical therapies



**isoPROtrace** kit: convenient multi-patient preparation in 5 minutes, easy-to-integrate in any radiopharmacy or hospital.

## Synergies with Jubilant

- As Part of the agreement, Jubilant will have an exclusive license to market Isotopia's Theranostic products in the U.S.
- Jubilant and Isotopia have complementary skills in R&D for the development of breakthrough therapeutic applications.
- Jubilant has strong regulatory, manufacturing and commercial capabilities in the US.

# With Strategic Partners, Jubilant Radiopharma is the Most Integrated Radiopharmaceuticals Company



|  |   |   |   |
|--|---|---|---|
| API Synthesis and Scale up Capabilities        | √ |   |   |
| Analytical Method Development and Validation   | √ |   |   |
| PET and SPECT Lyophilised Cold Kit Development | √ |   | √ |
| Therapeutic Cold Kit Development               |   |   | √ |
| Generator Development                          | √ |   |   |
| Ga-68 Labeling Expertise                       | √ |   | √ |
| F-18 Labeling Expertise                        |   | √ |   |
| I-131 Labeling Expertise                       | √ | √ |   |
| Lu-177 Labeling Expertise                      |   |   | √ |
| Alpha-particles labeling                       |   | √ |   |
| Nanoparticle Platform Technology               | √ |   |   |
| Leacheable Profiling of Radiopharmaceuticals   | √ |   |   |
| Lyophilised Kits Manufacturing                 | √ |   | √ |
| Radiopharmaceutical Therapeutics Manufacturing | √ | √ |   |
| World-class Network of Scientific Advisors     | √ | √ | √ |
| Extensive Radiation Safety Expertise           | √ | √ | √ |
| Extensive Regulatory Affairs Expertise         | √ |   |   |
| PET Manufacturing and Distribution Network     |   | √ |   |
| SPECT Radiopharmacy Distribution Network       | √ |   |   |

A worker in a white protective suit and yellow gloves is working in a cleanroom pharmaceutical facility. The worker is standing in a long, brightly lit corridor with stainless steel equipment and machinery. The worker is holding a small object in their hands, possibly a vial or a component. The background shows a complex network of pipes and machinery, typical of a pharmaceutical manufacturing plant. The overall atmosphere is sterile and professional.

## Radiopharma –

- Radiopharmaceuticals
- Radiopharmacies

# Radiopharmacies – Play a critical role in the nuclear medicine value chain



## Logistics and Distribution

Radiopharmacies operate within a close distance of the healthcare provider due to short half-life

**Due to just-in-time ordering** radiopharmacies need to manage an intricate and agile distribution network

Compounding process is **intensive &** carried under **strict cGMP** practices



## Wide product assortment

Radiopharmacies are **typically “open formulary”**, providing customers with a **full array of radiopharmaceutical options**

Players such as Cardinal, Jubilant Radiopharmacies provide **both SPECT and PET products**



## Specialized service

Handling, preparation, and storage of radiopharmaceutical agents require specialized training and facilities

As a result, radiopharmacies have high operating costs due to complexity and specialized staffing



## Implementation of stringent compliance standards

**Overseen by several regulatory bodies** and compliance required with stringent regulations, including UN Nuclear Regulatory Commission, US FDA, US Dept. of Energy, US Dept. of Transportation etc.



## Wide geographical coverage

Radiopharmacies **help to efficiently cover almost all regions of the United States** (for instance, Jubilant Radiopharmacies cover ~22 states)



## 24x7 availability

Radiopharmacies are available **7 days a week with on-call staff available 24 hours a day** to fulfill just-in-time demand from customers

# Radiopharmacies – Several tailwinds support market growth even with increased market competitiveness and pricing pressure

## Aging Population

- Population aged >65 years (requiring more medical treatments) growing by ~3% as compared to <1% growth rate for overall population

## Increasing Disease Prevalence

- Prevalence for diseases which are the target areas for nuclear medicine – oncology and cardiology – likely to increase by ~2% p.a.

## Increase of Generics

- With more drugs going off-patent (particularly in SPECT), margin profile of pharmacies to improve as generic SPECT products yield higher margins

## New products in PET and Theranostics

- New agents such as Rb-82, Ga-68, Cu-64 agents (Cardiac PET, Neuro-endocrine tumours, PSMA) will grow top-line for pharmacies



# Radiopharmacies – High Barrier to Entry



- To set up a new mid large size pharmacy location
- Thus, setting up a new chain of pharmacies may entail large capital investments
- The Opex requirement is also high

**High Capex and Opex Requirements**

- Authorized nuclear pharmacist must have acquired **at least 4,000 hours of training/experience** in nuclear pharmacy practice and passed an examination in nuclear pharmacy administered by diplomats of the specialty board, among others.

**Requirement of Skilled Manpower**

- **Requires strong GPO connect** and tie up with hospitals
- Needs to fit in budget cycle of nuclear med. department due to **“buy and bill” model** and long reimbursement cycle

**Elaborate Billing Cycles**

**Barriers to Entry**

**Stringent Regulations**

- Each treatment site requires **to obtain a license** from NRC
- **Additional state, local, and hospital regulations** (from US Department of transportation, US FDA, US Board of Pharmacies etc.) for transportation and usage

**Intricate Supply Chain**

- Requires **robust raw material supply**, manufacturing, and product transportation given **short half lives** of products and customers’ strong preference for **just in time ordering**, compared to large bulk orders

**Complex Care Coordination**

- Requires awareness, education and **collaboration across multiple HCPs** (e.g., oncologists, nuclear medicine specialists, nurses)
- Requires **collaboration across hospital departments** (e.g., medical oncology, radiation oncology, nuclear medicine), which may have different financial incentives

# Radiopharmacies – Competitive Landscape

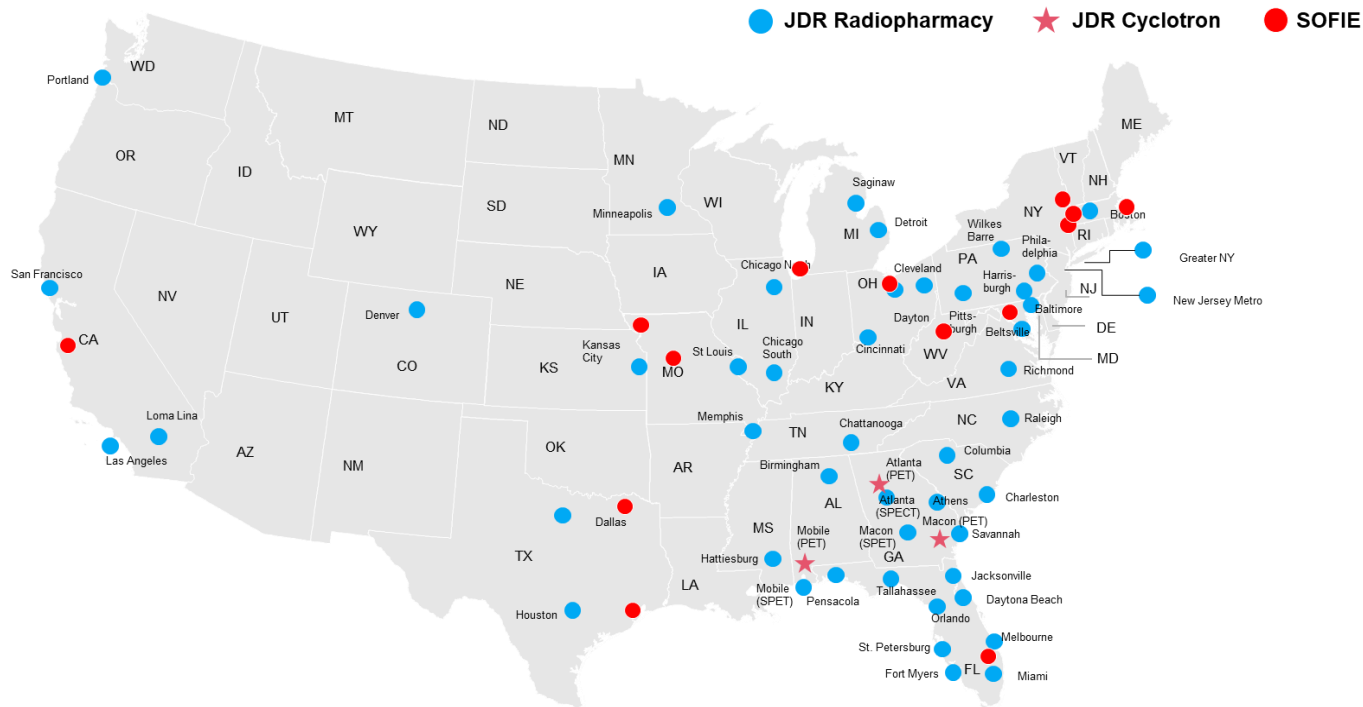


There are another 81 independent radiopharmacies across the country primarily servicing secondary markets

Source: Frost & Sullivan - Independent Market Research on the Radiopharmaceutical Industry, US Radiopharmacy Chain, US Contract Manufacturing Organisation Industry, US Allergy Immuno Therapy Industry and the Global and US Generic Pharmaceutical Industry  
 (1) For hospitals served within a 50 mile radius

# Radiopharmacies – Business Overview

- **# 2 commercial radiopharmacy network in the US**
  - Facilities also include three operational cyclotrons
- Multi-year agreements with GPOs in place



48 SPECT radiopharmacies spread across 22 states  
Access to 13 PET radiopharmacies via SOFIE



750+ employees



c.2.8 mn+ doses delivered annually

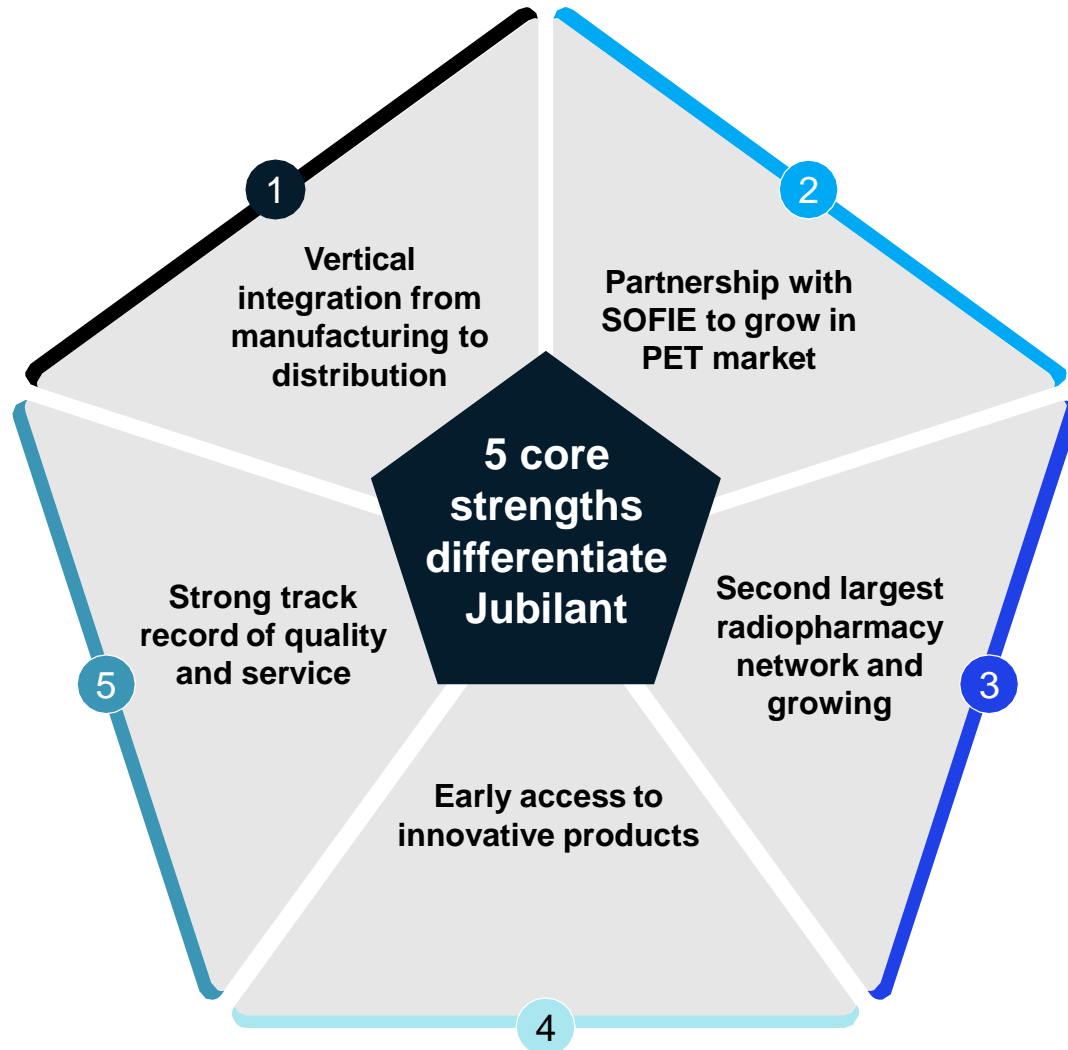


1,700+ customers across National GPOs, Regional Networks, local hospitals and physician groups

Recent strategic partnership with SOFIE provides additional upside in the high growth PET market

(1) According to Frost & Sullivan - Independent Market Research on the Radiopharmaceutical Industry, US Radiopharmacy Chain, US Contract Manufacturing Organisation Industry, US Allergy Immuno Therapy Industry and the Global and US Generic Pharmaceutical Industry

# Radiopharmacies – Key sources of differentiation



- 1 Vertical integration with Jubilant Radiopharmaceuticals:** enables Jubilant Radiopharmacies to offer supply chain security to its customers, especially in complex products like MAA, I-131 which have faced supply shortages in the past
- 2 Strategic partnership signed with SOFIE** gives Jubilant Radiopharmacies access to 13 PET pharmacy locations, all of which are complementary to Jubilant Radiopharmacies's owned network of pharmacies – thereby accelerating growth in the PET market
- With 48 owned pharmacies, **Jubilant Radiopharmacies already has the second largest footprint in the US.** With the addition of 13 PET pharmacies from SOFIE and planned expansion of >20 owned pharmacies in the next five years, Jubilant Radiopharmacies network will provide comprehensive coverage across strategic locations
- Jubilant Radiopharmacies has early access to entire innovative pipeline** such as I-131 MIBG from Jubilant Radiopharmaceuticals, providing it with a strategic differentiation to customers. In addition, through cross-selling Ruby-Fill, Jubilant Radiopharmacies can engage more closely with hospitals & clinics
- Jubilant Radiopharmacies has consistently **delivered and met expectations on quality of products and the level of service** (fill rates, delivery), vis-à-vis other competitors. Stringent systems in place to ensure 100% procurement from FDA approved vendors and all operations in USP compliant environment

# Radiopharmacies – Strategy Going Forward



## Drive Operational Excellence

### At Network Level

- Reduction in generator cost through renegotiation of contracts
- Optimization of cold kits COGS through alternate sources (e.g. alternate vendors, generics sourcing)
- Reduction in other COGS and SG&A (e.g., fleet expenses, courier, consumables, IT)

### In Pharmacy Operations

- Standardization and operating efficiencies in key processes e.g., vial utilization, route optimization
- Pharmacy staffing optimization e.g. pharmacist to technician ratio; contracted vs. in house drivers

## Drive Commercial Excellence

### Grow Market Share

- Target contract wins in existing footprint through robust RFP process
- Strengthen value proposition as a differentiator in the market based on bespoke customer service and customized operating model
- Track win rates assigned to each account being targeted

### Capture PET Opportunity

- Developing a robust go to market plan to capture growth in PET e.g., through strategic partnerships with SOFIE, existing Cyclotrons

## Drive Network Optimization & Expansion

### Optimize Current Network

- Hub spoke model i.e. converting full service pharmacies into satellite pharmacies
- Closure of select negative margin pharmacies while continuing to service customers from nearby locations

### Strategic Network Expansion

- Organic / inorganic growth of radio pharmacy network in key geographies identified based on revenue potential and specific contract opportunities

## Allergy Immunotherapy (AIT)

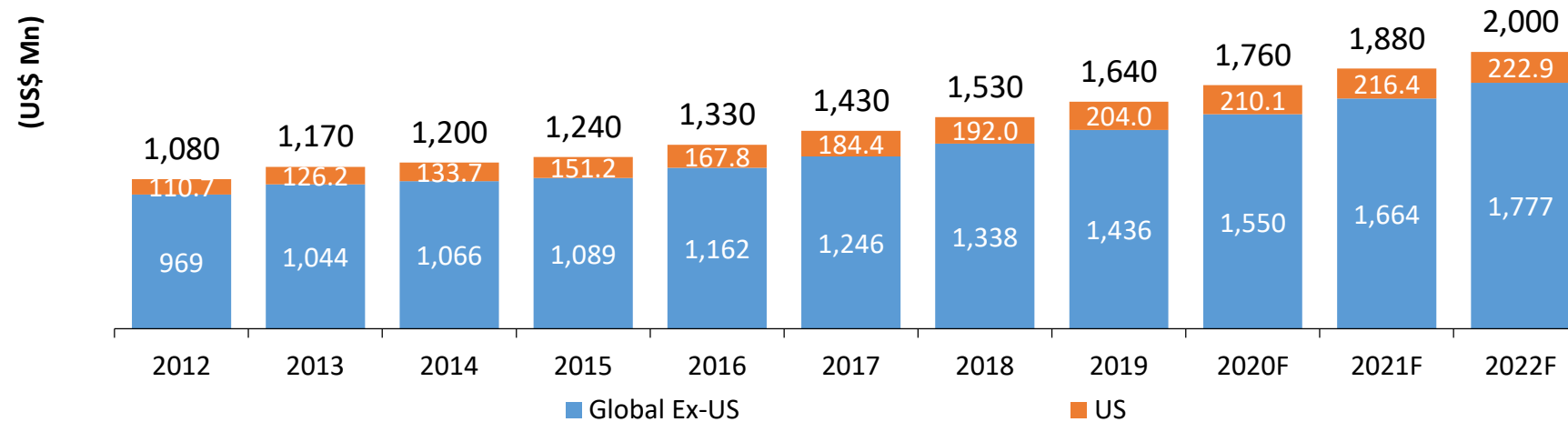


# Allergy Immunotherapy (AIT) – Industry Overview



## Market Overview

Allergen Immunotherapy Market Size



- Allergy Immunotherapy (AIT) treats the underlying cause of the disease versus suppressing symptoms
- Subcutaneous Immunotherapy (“SCIT”) dominates the worldwide Allergen Immunotherapy (“AIT”) market with over 50.0% market share while Sublingual Immunotherapy (“SLIT”) via tablets and drops accounts for the rest of the market. In the US, SCIT is the preferred route of administration with over 90% of the market, while SLIT is the preferred route Ex-US.
- Venom Immunotherapy (“VIT”) is considered effective for the prevention of potential allergic reactions to hymenoptera stings contributing to significant improvements in the quality of life
- Following the exit of ALK-Albello in 2018, Jubilant HollisterStier is sole supplier of VIT in the US

# Allergy Immunotherapy (AIT) – Business Overview



## Products

- Product range includes portfolio of 100+ different allergenic extracts, six insect venom products and exclusive skin diagnostic testing devices
- #2 player in the allergenic SCIT extract market in the US and the sole supplier for venom immunotherapy in the US
- High barrier to entry considering that the products are branded biologicals which have regulatory approval grandfathered in

## Markets and Customers

- Primary target user base of allergy therapy products are Allergists, Ear Nose & Throat Physicians, General Physicians, and select hospital-based clinics across North America
- Products sold under own brand 'HollisterStier' with significant brand loyalty going back 100 years

## Sales, Distribution, Marketing

- Products are sold primarily in bulk and then mixed in the office/clinic environment
- Dedicated sales force in the United States and distributors in Europe, Canada and South Korea

## Facilities

- Allergy therapy products are manufactured at our Spokane Facility, approved by the USFDA and Health Canada
- One of two suppliers with on-shore manufacturing and only manufacturer of venom in US, a potential strategic advantage

**One of the leading North American immunotherapy companies, with 100 years of experience**



# Allergy Immunotherapy (AIT) – Key products

## Allergenic Non-Venom extracts



- Jubilant has a broad & diverse portfolio across all the major allergen extracts (100+) in the unique phenol-free format with differentiated products via the Acetone Precipitated (AP) process allowing more potent product
  - AP Dog & Cat (hair & pelt)
  - 10K & 30K Mite (two differentiated strengths)
- In-house capabilities in extract production
  - Small volume sterile fills, commercial scale lyophilization
  - cGMP facility and quality system that meets FDA and ISO standards

## Venom products



- More than 16 million Americans are at risk for a potentially life threatening systemic reaction to an insect sting with 230,000 hospitalized each year and 60 deaths
- Venom Immunotherapy (VIT) reduces the risk of systemic reaction for patients allergic to stinging insects — with an efficacy rating of up to 98%
- VIT is available in honey bee, white-faced hornet, yellow hornet, wasp, yellow jacket and mixed vespid
- Up to 14 different species of venom is collected
- JHS sole producer and supplier of VIT in North America

## ComforTen Skin Test System



- Unique skin test devices with the only self-loading, surgical steel skin test system on the market
- Surgical steel 1.2 mm lancet tips are uniquely designed for minimal patient skin trauma
- ComforTen® cause zero reaction at the negative control site, and readings of 3mm or greater are considered positive

# Allergy Immunotherapy (AIT) – Key sources of differentiation



## Sole Venom Supplier

- Portfolio based sales approach across categories
- Potential to double the venom doses even with 50% share of additional untapped market
- JHS has also started BeeAware campaign for building patient awareness on VIT in the US



## Biological products with hard to replicate supply chain

- Branded biologicals with regulatory approvals grandfathered in
- Raw materials are natural extracts with scare supply and specialized sourcing
- Made to Stock mindset, with >90% OTIF



## On-shore manufacturing

- Only onsite USFDA approved venom manufacturer
- Strong quality track record; plan to add another fill and finish line by FY24
- New capacity addition to allow for 100% increase in headroom growth



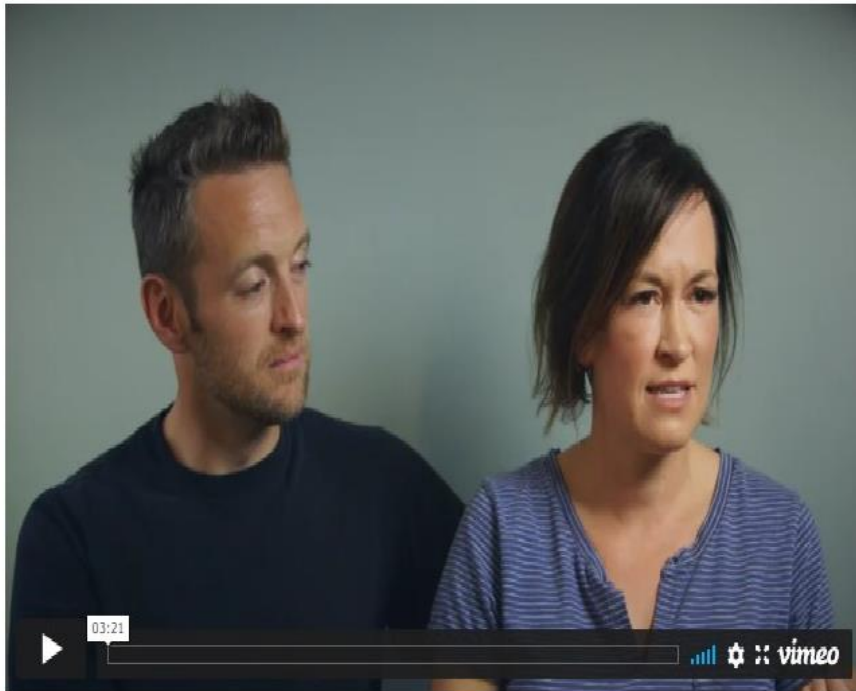
## Branded and Differentiated Portfolio

- Over 100 phenol free products promoted through 18 dedicated front line field force representatives
- AP Dog (30x more potent than competition) and 30k Mite (single dose usage vs multiple doses) offer potential for premium pricing
- Pipeline products such as UF Dog, and 30K cat add to the differentiation

# Allergy Immunotherapy (AIT) – BeeAware content



Hear a family's success story.



Learn how an avid gardener continued her passion with immunotherapy.



**Katherine K. Schlosser** is an author and lecturer on native plants and herbs. Despite her allergy to honeybees, wasps, hornets, and yellow jackets, she spends most of her

9:40  
beeawareallergy.com  
BeeAware  
Bee Sting Allergies  
**Are Serious**  
Find a local specialist  
SEARCH NOW

## 16M

**Americans Are**

living with a potentially life-threatening bee sting allergy.<sup>1</sup>

## 220K

**ER Visits**

occur each year for bee sting allergy-related anaphylaxis.<sup>2</sup>

BeeAware  
Stinging Insects Bee Stings Resources Medical Professionals FIND A PROVIDER  
Home Find a Provider  
Find a Provider  
Don't wait for an emergency. Prevent it.  
Contacting a medical provider is one of the first steps toward prevention! Use our physician locator to find a provider who can talk through your testing and treatment options.  
County: Under States | City & State OR Zip Code: Spokane, WA | Radius: 5 mi | SEARCH  
2 RESULTS FOUND  
Spokane Allergy Asthma Clinic  
500 W 8th Ave, Ste 700  
Spokane, WA 99204  
509-747-1624  
Website | Business Hours | Open Now | More Info | Directions | 6.83 mi  
Spokane Dermatology  
124 S Sherman St  
Spokane, WA 99202  
509-343-3710  
Website | More Info | Directions | 1.1 mi  
Showing Page 1 of 1

### 3 TIPS FOR CALLING A NEW MEDICAL PROVIDER

Don't put off contacting a physician because calling feels overwhelming. Here are three simple tips to make this call an easy one.

#### 1. Grab Your Insurance Card

Before calling, make sure to have your insurance card in reach. The provider's office can verify if they are in-network and any copays you may have.

#### 2. Write Down Your Questions

It is common to forget your questions once you're on the phone. Take a couple of minutes to jot them down. Leave some space between each question so you can write down the answers for safekeeping.

#### 3. Open Your Calendar

If you decide to schedule an appointment, you will need to check your calendar. Opening it before calling will save you time and stress. You've got this! Contacting a provider about bee sting allergies is a significant first step toward preventing an emergency.

Expand For References

# Allergy Immunotherapy (AIT) – Strategy Going Forward



## Leverage Existing Capabilities

- Grow new, differentiated products and expand capacities in **non-venom extracts** and **venom products**
- **Expand non-venom extracts** and **venom volumes** within the US market (new customers & patients)
- Building awareness around VIT through the **BeeAware patient program** to increase diagnosis and treatment to double venom doses from 500K to 1Mn in the US
- **Dedicated sales force** in US and distributors in Europe, Canada and South Korea
- Leverage existing **HollisterStier brand equity** to build Customer loyalty

## Enhance US Footprint & Portfolio

- Change Customer mindset from “Made to Sell” to “**Made to Stock**”
- Drive growth and profitability through strong customer commitment to be **partner of choice** in the US allergy market
- Enhance sales process with **Digital Capabilities** (Field & Customer engagement)
- Utilize digital technology to **educate the public** on allergy immunotherapy as a treatment option
- **Expanding capacity by installing new venom line by FY24 & upgrade existing non-venom manufacturing lines & processes**

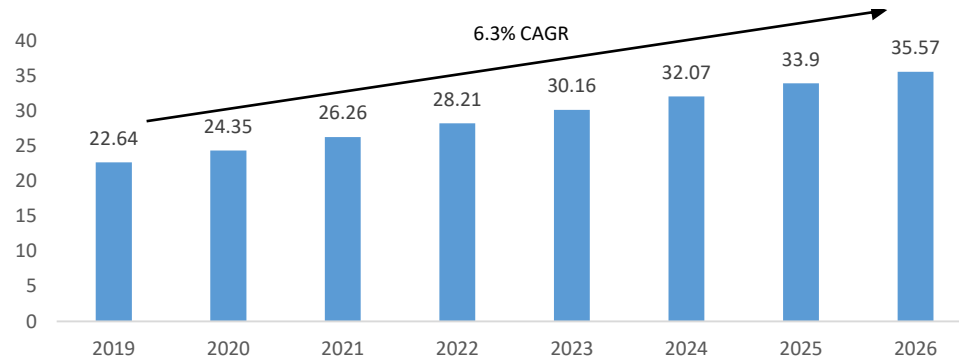
## Expand Target Markets & Portfolio

- Expand product portfolio through launch of **new products** based on ultrafiltration process (UF Dog) or process improvements with more potent offering (30K cat)
- Entered into partnerships to further **deepen the penetration in Canada and Europe**, specifically France and Germany
- Expand Ex-US footprint into **EU, LATAM & Asia** with specific focus on **Ex-US Venom** market opportunity to increase venom doses from 300K to 1Mn doses Ex-US
- Subject to completion of relevant USFDA approvals, register venom products for use in animals

**Contract Manufacturing of Sterile Injectables and Non-Sterile Products (CMO)**



## Global Pharmaceutical CMO Industry Size (\$Bn)



- Global pharma CMO market has grown and is expected to grow at 6%+ over the next few years; COVID projections will add need for another 1-2 billion vials per year taking the growth to double digits assuming 50% of this flows to CMOs
- Injectable market to drive growth and expected to grow @over 8% pre-covid; Ophthalmic at around 5%
- Sterile injectable demand continues to be strong on back of:
  - Rise in demand from new launches including COVID; over 70% of new molecules are small molecules that Jubilant can handle; Significant demand for COVID related therapies and vaccines
  - Preference for onshore manufacturers with a good quality track record
- Ophthalmic demand continues to be strong on back of:
  - Ageing population
  - Ability to handle preservative free ; Europe is taking lead in preservative free; demand in US to grow 3 times faster than Europe over the next 5 years; could be premium pricing basis our pipeline

## Key Trends and Growth Drivers

Outsourcing relationships are now much more strategic

Consolidation in injectable CDMO Space because of increasing acquisitions leading to scale benefits

Shortage of Injectable Drugs and injectable capacity

Vendor Consolidation; Discussions suggest a 50% reduction in supplier base – can lead to RM/PM pricing pressure

Technical Expertise For Sterile Injectable Drugs

# CMO – Business Overview



## Overview

- Sterile injectables accounts for 80% CMO revenue while non-sterile products account for the balance 20% CMO revenue
- Can handle vial ranges from 2ml to 100ml and batch sizes ranging up to 2,000 liters
- Suitable for clinical trials as well as large-scale commercial requirements
- Robust order book with strong visibility to revenues going forward
- Serve 7 out of the top 20 pharmaceutical companies globally based on revenue
- Deep and long-term relationships with our customers – each of our top 10 customers with us for 5+ years, of which 6 have been customers for 10 years
- Manufacturing facilities include:
  - Spokane, Washington, US – delivery of clinical and commercial fill and finish services for sterile parenteral pharmaceuticals, utilizing both liquid and lyophilization capabilities
  - Montreal, Canada – multi-dosage form capabilities ranging from sterile parenteral (vial and ampoule liquid and lyophilization), to sterile and non-sterile semisolid manufacturing of OCL, ophthalmic
- Strong inspection history – passed USFDA, EMEA, Russia, Korea, Japan, Anvisa
- US\$ 92 Mn investment to expand sterile injectable manufacturing capacity by 50% at Spokane that will be commercially operational by the end CY24; Peak potential annual revenue from investment at c. US\$90 Mn
- New 200 bottles a minute ophthalmic line to be operational next year; capable to handle preservative free drugs; Peak revenue from investment @\$30 million

## CMO Services across product segments

*Full suite of services to our customers including supply chain support, lab testing services, regulatory submission support, manufacturing process refinement and project management*

### Sterile Injectables

- Vial and ampoule liquid fills
- Freeze-dried (lyophilized) injectables
- Biologics
- Suspensions
- Water for injection diluents
- Sterile ointment creams and liquids (growing presence in topical and ophthalmic areas)

### Non-sterile Products

- Semi-solid dosage formulations, including antibiotic ointments
- Dermatological cream and liquids (syrups and suspensions)

# CMO – Strategy Going Forward



## Enhance and Expand Capacity to expand margins

### Unlock Existing Capacity

- Business Excellence initiatives to increase productivity

### New Capacity Addition (other than previously mentioned)

- High Speed isolator line at Spokane doubling the current capacity
- Expansion of Montreal facility (under evaluation) to triple the capacity - Sterile fill & finish capacity in 4 years having peak potential revenue of \$60 Mn and new Flex line with PFS in 2 years with peak revenue of \$20 Mn
- Additional ophthalmic line being evaluated in Montreal with peak revenue of \$30 Mn

### Margin Expansion

- Leveraging existing assets expansion in margins from expansion of plant

## Achieve Operational Efficiencies

- Continue to build on **First Time Right (FTR)** customer service
- **Beat the already meeting industry standards** on discarded batches; focus on **minimum deviations** per batch
- **Increase product filling yields** and reduce time cycle between product releases
- Leverage existing setup (e.g., land, civil construction, utility, labs, warehouses) to gain **higher capital efficiency**

## New Customer Targets

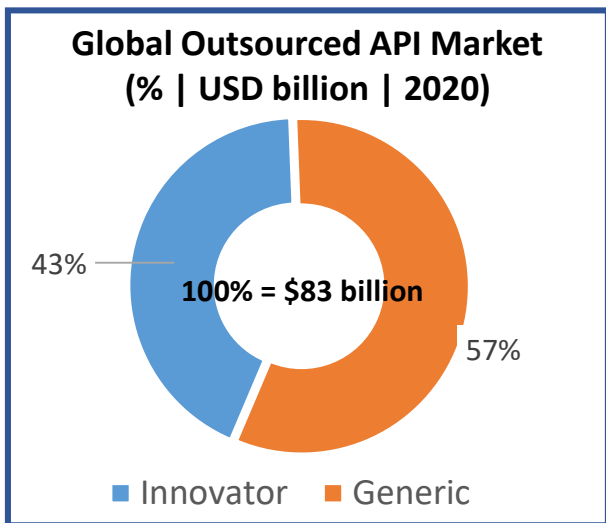
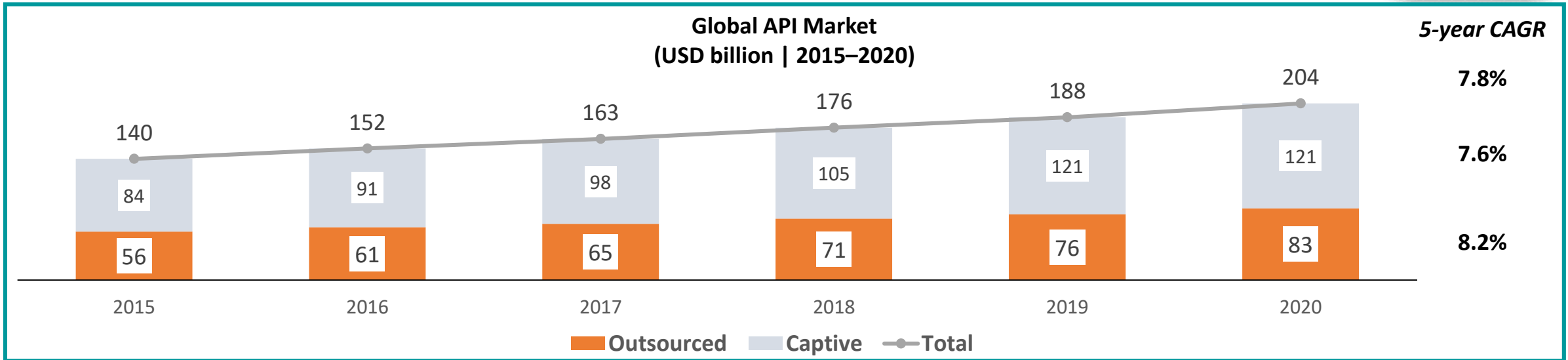
- **New customer targets** for sterile injectables, ophthalmic, semi-solids and non-sterile liquids given customer preference for on-shore manufacturing
- Evaluate opportunities for **new product launches** of pharma players – working with them through **development phase**
- Focus on **long term high value** contracts
- Significant addition in new deals at both sites including **COVID projects, ophthalmic ointments** and other dosage forms



A pharmaceutical worker in a white protective suit and yellow gloves is working in a cleanroom environment. The worker is standing next to a large stainless steel piece of equipment, possibly a tablet press or a similar manufacturing machine. The background shows a complex industrial setting with various pipes, valves, and machinery, all in a clean, sterile environment. The lighting is bright and even, highlighting the metallic surfaces and the worker's attire.

# Active Pharmaceutical Ingredients (APIs)

# API – Global Market Overview



## Key Takeaways

- The **global API market** stood at ~\$204 billion in 2020, growing at ~7.8% CAGR over 2015–2020; the market is expected to post similar growth over the next 5 years
- The **outsourced API market** is worth at \$83 billion (as of 2020), posting a growth of ~8.2% CAGR
- As of 2020, **share of generics stood at 57% (\$47.3 billion)**; growth in the generics segment is expected to be driven by increasing healthcare costs across developed countries

1. According to various industry reports, share of synthetic APIs is around 75% of the total market  
Source: McKinsey Estimates

# API – Business Overview



## Highlights

- **~60% API sales** are to regulated markets, resulting in **high customer retention levels**
- **75–80% sales to third-party customers** and balance to internal generics business
- **~80% of the commercialized portfolio** is in lifestyle-disease-related therapeutic areas such as CVS, CNS, Pain Management, anti-infective, anti-depressants and non-communicable diseases
- Focus on **top players in select geographies** and **product-level differentiation**
- API facility at Nanjangud, Karnataka (with USFDA, PMDA Japan, KFDA Korea, COFEPRIS Mexico and Brazil ANVISA certifications)
- **Global leadership in several APIs**, led by:
  - Long-term association with leading formulators
  - Economies of scale and sourcing efficiencies (e.g., Carbamazepine)
  - Vertical integration (e.g., Pyridine chemistry for Donepezil Form I)
- **One of the major global suppliers** for several key API products<sup>1</sup>, with >10% market share in various APIs

## Top Products<sup>1</sup>

| Product       | Jubilant's Market Share (FY2020) <sup>1</sup> |
|---------------|---|
| Pinaverium    | 50% - 70%                                     |
| Risperidone   | 20%- 30%                                      |
| Aprepitant    | 20%- 30%                                      |
| Oxcarbazepine | 20%- 30%                                      |
| Meclizine     | 20%- 30%                                      |
| Donepezil     | 20%- 30%                                      |
| Carbamazepine | 10%-20%                                       |
| Olanzapine    | 10%-20%                                       |

# API Business – Key Sources of Differentiation



**Among global leaders in several products** (e.g., Carbamazepine, Oxcarbazepine, Pinaverium Bromide) **complemented by diversified bets** with strategic share across multiple products (e.g., Valsartan, Azithromycin, Irbesartan, Lamotrigine)



**Strong R&D capabilities** leading to an **advanced stage pipeline** (~20 DMFs filed for launch in next 5 years) and development of products involving **complex chemistry** (e.g., chiral separation for Olanzapine, nitrosamine impurities control for Sartans etc.)



**Long term partnerships with regional champions and global leaders** across its top 10 customers accounting for ~36% of third party sales



**Targeted cost reduction** (process and yield improvements) and **capacity debottlenecking** efforts in the last 2-3 years leading to an improved cost position across existing products (e.g., Galantamine, Oxcarbazepine, Valsartan) and pipeline products (e.g., Vildagliptin, Sitagliptin etc.)



**Synergies with the captive dosage business** providing higher revenue visibility, lower threat of being substituted and an opportunity to create product platforms (e.g., Lamotrigine)

# API Business – Strategy Going Forward



## Achieve Sustainable Growth

- Robust **portfolio management** with differentiated strategy for key products and markets
- **New products will contribute to +20% revenue** in the next 5 years
- Solid foundation for growth via **cost leadership** and delivery excellence
- Strong mechanism to offer **competitive pricing** and optimize costs (via dedicated Cost Improvement Programs (CIPs) and vertical integration of KSMs)
- Continuous **de-risking from China** for Key Starting Materials (KSMs) by increasing domestic sourcing

## Invest in Expansion and New Product Pipeline

- **Debottlenecking initiatives** underway to increase capacity from existing utilization of 80-85% - Add ~280 MT capacity in the next 5 years
- Continue to **invest in both R&D** (to build-up product pipeline) **and capacity expansion** at plants (to take advantage of pipeline opportunities)
- Develop differentiated portfolio with **focus on complex multi-stage molecules**
- **Augmenting the existing capacity** with incremental capacity of 100 MT by building a new plant - Initiated designing work in 2021 at our SEZ Bharuch

## Continue to be a Preferred Supplier

- Initiatives aimed at **increasing the product range** in key markets – such as the US and Europe – and further **expanding our geographical reach** in select Emerging Markets
- Strengthen ‘alternative-to-China’ positioning in select products
- Enhance share-of-wallet for core portfolio products via **customers seeded-in** through robust business development efforts
- **Increasing share of in-house APIs to Generics** business
- Evolve further as a ‘**Customer Centric**’ organization through enhanced service delivery and deeper relationships

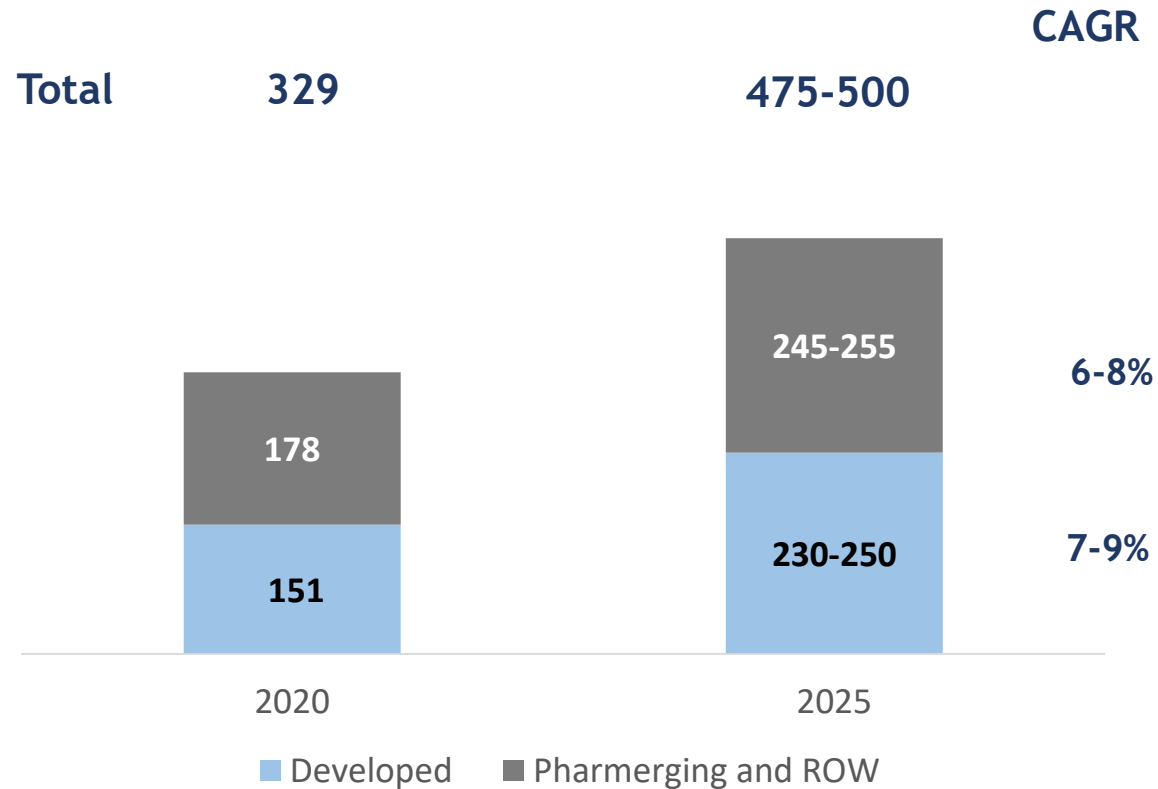
## Generics (Dosage Formulations)



# Generics – Global Market Overview



Global Generics Pharmaceutical Market Size by Region (Billion USD)



## Global Generics Market Trends

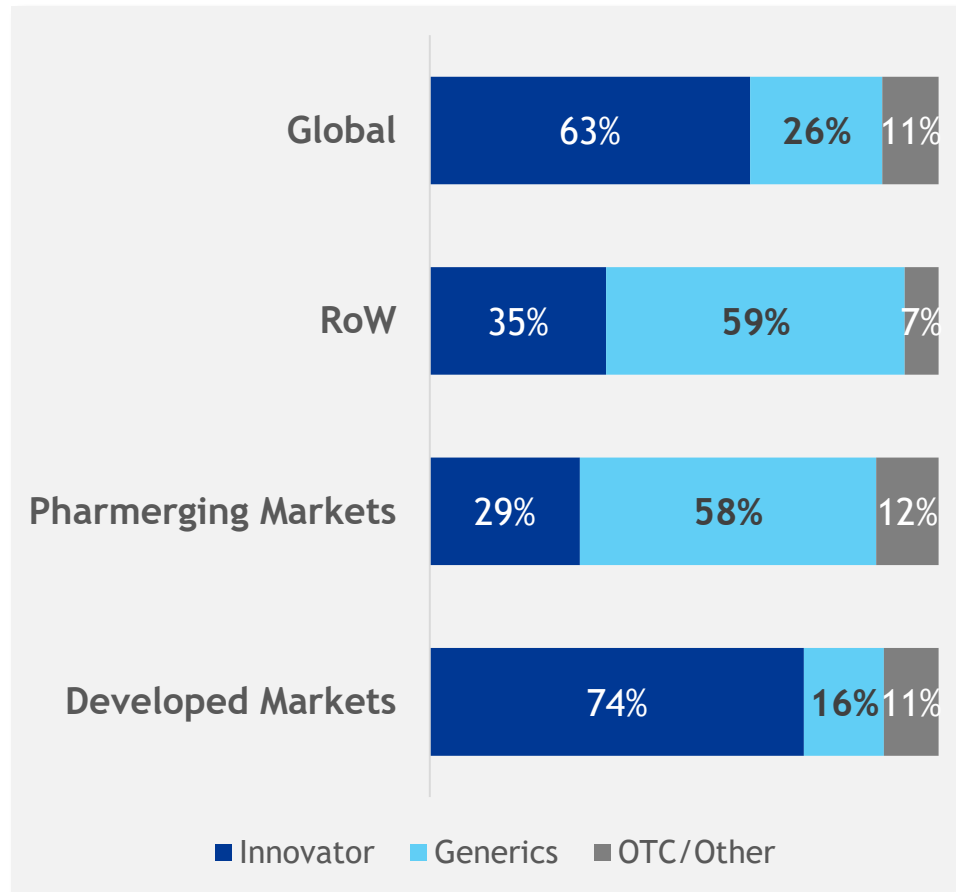
- While volume growth in generics segment will be driven by patent expiry of new molecules, pricing pressure on this segment, especially in developed markets is likely to continue
- Increase in affordability and access (especially in emerging markets) driving spend in healthcare
- Shift towards complex generics

Source: IQVIA Market Prognosis, Sep 2020; IQVIA Institute, Mar 2021

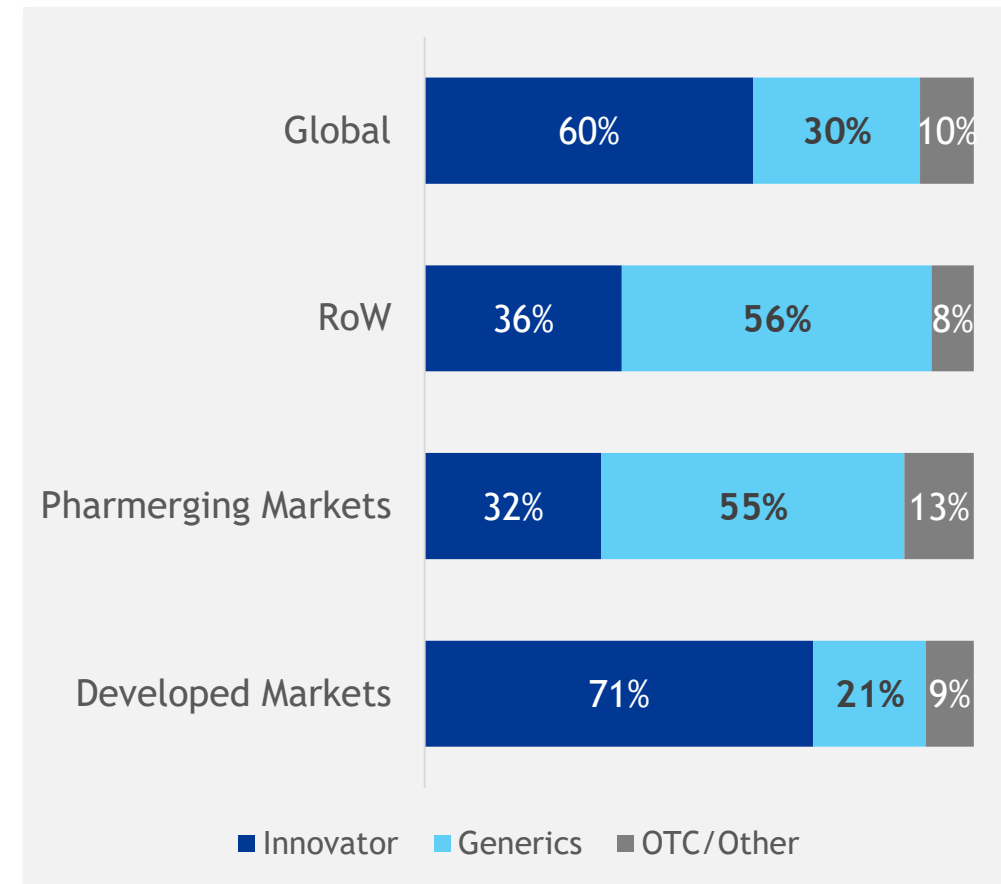
# Generics – Global Market Overview



Global Pharmaceutical Spending Breakdown by Type of Products, 2020 (%)



Global Pharmaceutical Spending Breakdown by Type of Products, 2025 (%)



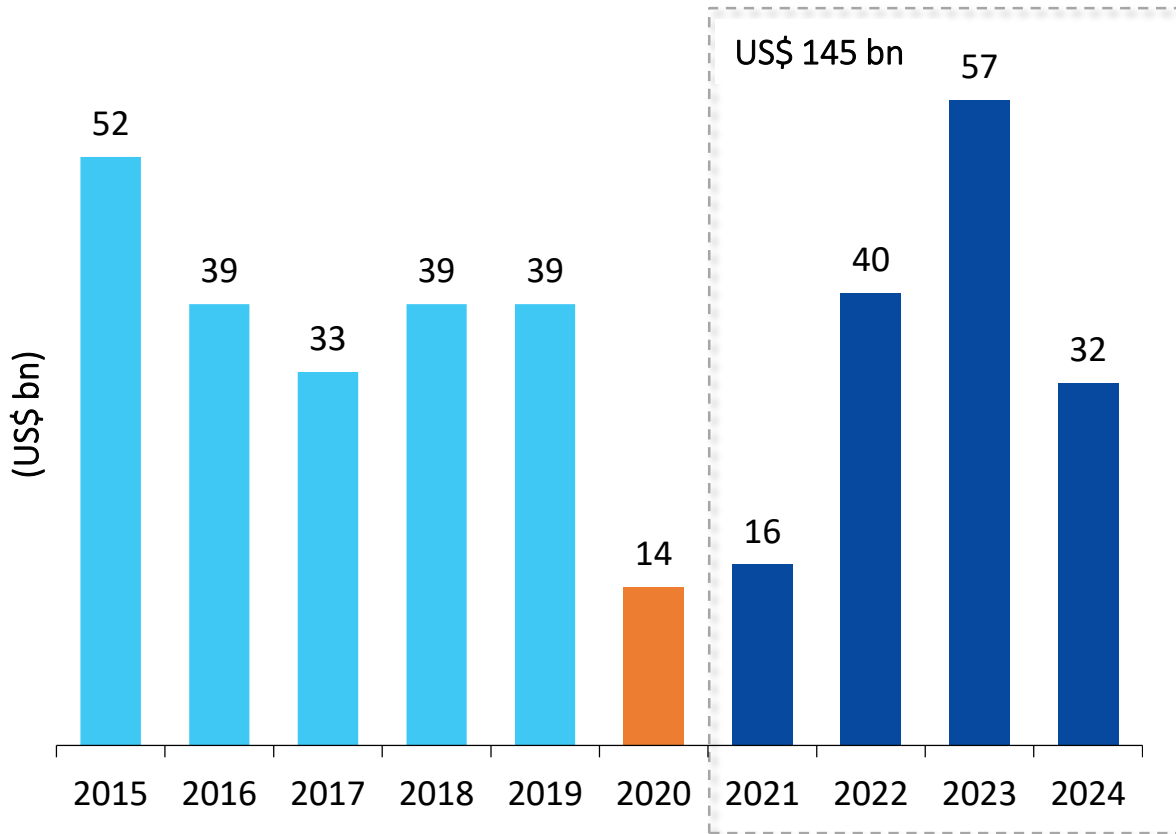
\* Pharmerging markets include China, Brazil, Russia, India, Turkey, Egypt, Indonesia, Thailand, Malaysia, Philippines, Vietnam, South Africa, Nigeria, Mexico, Colombia, Saudi Arabia, and Chile



# Generics – Global Market Overview



## Global Patent Expiry for Prescription Drugs



Source: Evaluate Pharma World Preview; Outlook to 2024

## Generics Market Trends

- Increase in affordability and access (especially in emerging markets) driving spend in healthcare ; Shift towards complex generics
- U.S. generics market faced pricing headwinds from consolidated purchasing power of customers, though the downward pressure has eased over the last two years
- Governments across the world have been focused on enhancing generics usage to reduce pharmaceutical expenditure
- U.S. government focus on lowering pharmaceutical pricing has been coincident with concerns regarding quality, drug shortages and over-reliance on overseas production
  - U.S. interagency task force identified “market failures” as the cause of many product shortages, citing unsustainably low market prices in those situations
- Overseas production concerns existed prior to COVID-19, but have been significantly exacerbated by the pandemic’s impact on the global supply chain

# Generics – Business Overview



## Overview

- **Market leader** in the US in select products<sup>(1)</sup>
- Capabilities in multiple dosage forms
- **Vertical integration** via our APIs business
- Supported by in-house R&D facilities for formulation development
- Broad therapeutic areas covered include Cardiovascular System (CVS), Central Nervous System (CNS) and Gastrointestinal (GI)
- Manufacturing facilities approved by US FDA, UK MHRA, ANVISA Brazil, PMDA Japan, TGA Australia and MCC South Africa
- **Roorkee site capacity expansion** completed in FY20. Salisbury site expansion is underway translating to 85% increase in capacity by early FY22
- Non-US business supplies to 45+ countries with 80% revenue coming from 10 countries and is driven via **distributor-led / B2B model** while retaining marketing authorizations in Jubilant’s name in most countries
- In **UK and South Africa**, Jubilant has recently **started its own offices** as part of its long term plan of going direct to market with its own sales team; a significant part of the future growth will come from these direct to market expansion initiatives in key strategic countries
- Another focus area for Jubilant in Non-US business is branded generics market; Currently, **Jubilant branded products are sold in 8 countries** with portfolio strength of 57 products <sup>2</sup>

| Jubilant's Market Share in select products in US |              |                   |
|--|--------------|-------------------|
| Products   | Market Share | No Of Competitors |
| Prochlorperazine                                 | 100%         | 0                 |
| Terazosin  | 96%          | 1                 |
| Methylprednisolone                               | 29%          | 5                 |
| Risperidone                                      | 70%          | 1                 |
| Spirolactone                                     | 13%          | 4                 |
| Prednisone                                       | 24%          | 6                 |
| Valsartan  | 25%          | 6                 |

(1) Source: Market share data is from IQVIA (Jan-Mar 2021)

(2) These countries included South Africa, Philippines, Singapore, Vietnam, Botswana, Uzbekistan, Hong Kong, and Malaysia

# Generics – Key Sources of Differentiation



## Strategic Portfolio Selection

- Enables presence in molecules with low competition



## Vertical Integration

- Vertically integrated for key products such as Valsartan, Risperidone, Atorvastatin, Esomeprazole, Azithromycin, Oxcarbazepine (in-house API for 60% of revenues) providing supply security and cost advantage



## Calibrated redundancy in manufacturing and flexibility in supply chain

- Helps to quickly respond to market shortages (e.g. in Valsartan managed ~50% increase in volume between Q1CY20 and Q2CY20 leveraging in-house capacity when other players faced quality issues)



## Multi-agency approved facilities

- In-house manufacturing capability to support a wide array of markets and requirements e.g. USFDA, Japan PMDA, and EMEA approved facility in Roorkee



## Durable B2B Customer Relationships

- 7 customers accounted for ~70% of FY20 revenue for this segment

# Generics – Strategy Going Forward



## Leveraging R&D Capabilities

- Enter underserved product markets through opportunity identification and rapid response, utilizing **in-house development and partnerships**
- Successful development and scale-up of differentiated opportunities, including **partnership with 3rd party development centers**
- Focus on **various delivery systems** and forms
- Ensure **robust formulations** and scale-up to support reliable supply
- Utilize existing salesforce more **efficiently** to carry more brands

## Sustainable Manufacturing

- Properly **balance cost, supply reliability and speed to market** including vertical integration with in-house API capabilities
- Mitigate supplier concentration risks via **alternative sources of API**
- **File products from multiple locations** to reduce site dependency risk for high value products
- **Exploring additional manufacturing sites** through partnerships and inorganic expansion
- Ensure **sustained compliance with global regulatory standards** to enable consistent growth

## Market Expansion

- Expand business into emerging markets through **on-time portfolio expansion** – Plan to launch 45 products in US and 27 products in Non-US market during FY22-FY26
- New products are expected to generate an **additional potential revenue** of more than US \$300 Mn during FY22-FY26
- **Geographical diversification**; higher focus on non-US markets to tackle price and competition challenges
- **Shift from traditional B2B model to B2C model** in key Non-US markets to leverage growth potential
- Utilize **partnerships model with CMOs/CROs** to bridge capability gaps and gain access to new dosage forms, mainly **injectable**

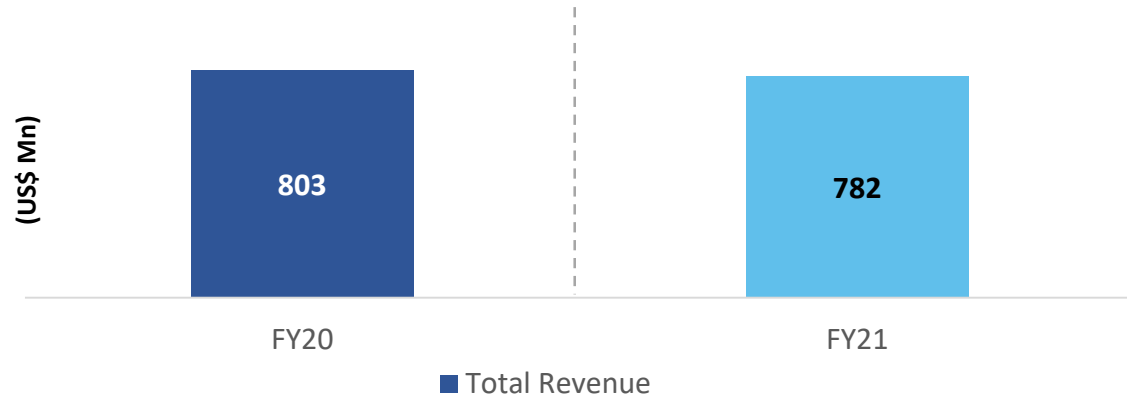
## Jubilant Pharma - Financials



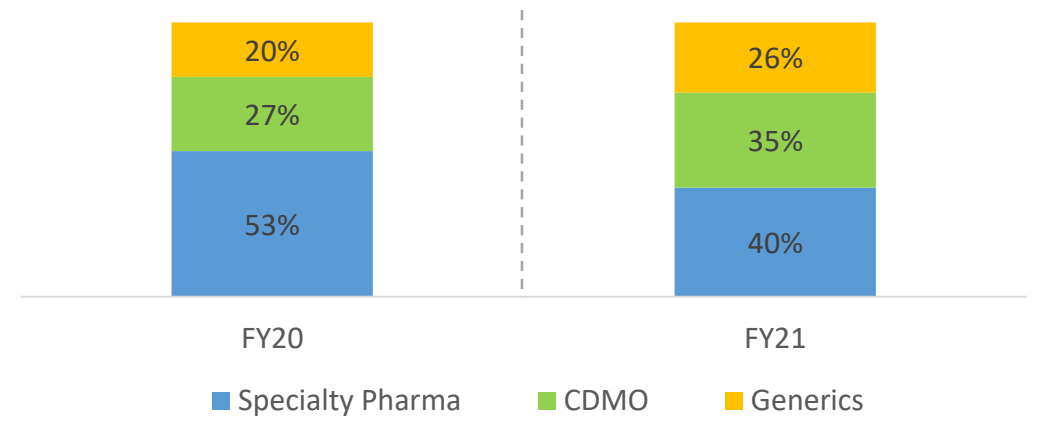
# Financial Performance | P&L



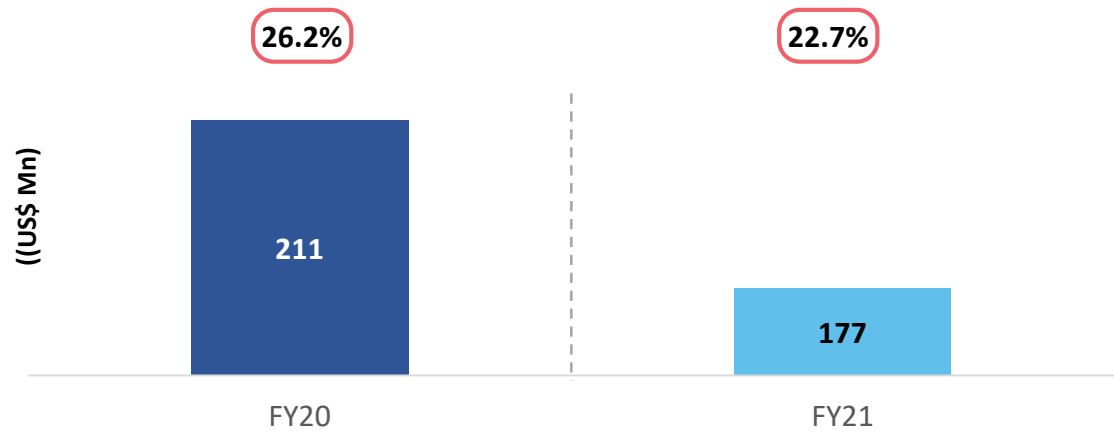
### Revenue from Operations



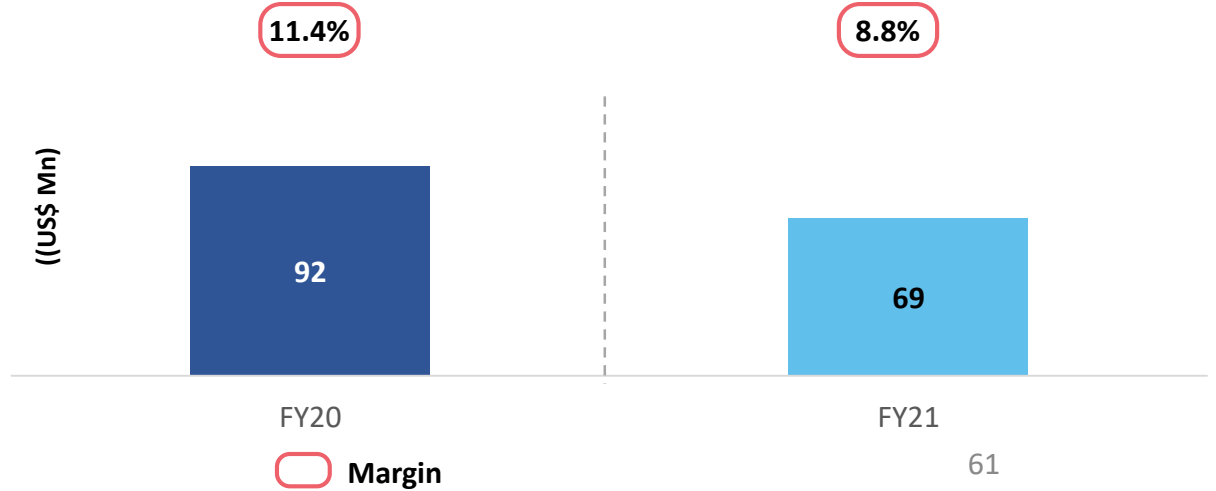
### Revenue by Segment



### EBITDA



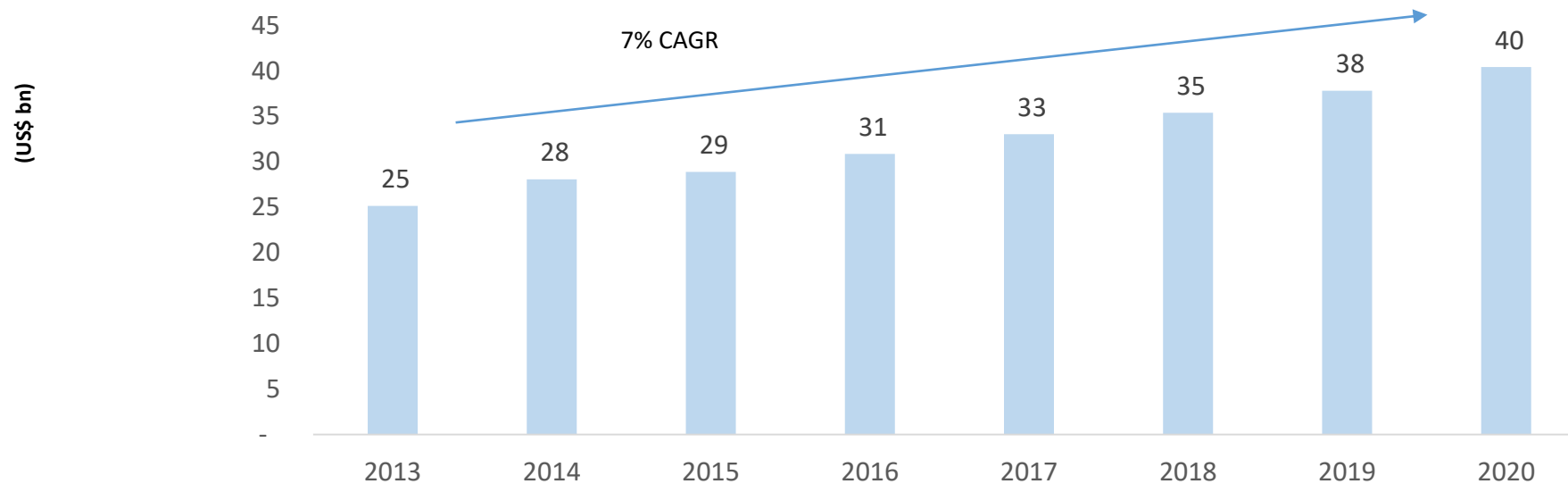
### Profit after tax



**Contract Research and Development Services - Jubilant Biosys**



## Global CRO Market Size



- **Global CRO market has grown at a CAGR of 7% between 2013-20**
- **Increasing per unit R&D cost for pharma**
  - 8x increase in cost per Novel Molecular Entity from \$140m in the mid-1970s to \$1,200m early-2000s
- **Increasing outsourcing penetration driven by:**
  - Focus on core competencies
  - Emergence of “virtual” companies
  - Shift from fixed to variable cost mod



# Business Overview



## Overview

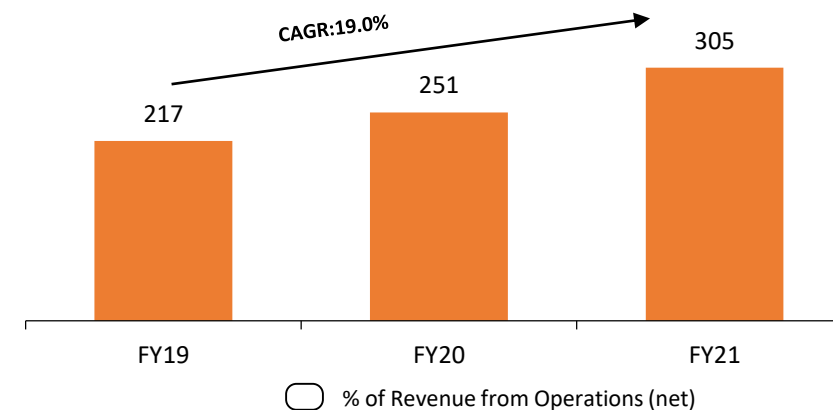
- Provides new Drug Discovery services to global innovators in US, EU, Japan & APAC.
- Fully integrated Drug Discovery service provider as well as functional specialist for complex chemistry, computational chemistry and scale-up up to GMP phase 1.
- Top 10 customers based on long relationship and track record of performance.
- Engaged in several risk-shared discovery projects including Sanofi and highly reputable US investment funds.
- Research facilities include:
  - Greater Noida & Noida, India – chemistry & analytical services as well as NCE scale-up and GMP for phase 1
  - Bengaluru, India – medicinal & computational chemistry, biology, DMPK/Tox. Integrated services up to IND phase.
  - TrialStat: EDC software for clinical trials
  - Digital: ML/AI pilots, data curation, Bio-informatics

## Discovery Services up to IND & GMP

Full suite of services to our customers including supply chain support, lab testing services and project management

- |           |  |
|-----------|--|
| Discovery | <ul style="list-style-type: none"><li>➤ Computational &amp; medicinal chemistry</li><li>➤ Synthetic chemistry &amp; process R&amp;D</li><li>➤ In-vivo/In vitro DMPK &amp; Tox</li><li>➤ Biology &amp; Pharmacology</li><li>➤ Structure Based Drug Design</li><li>➤ Protein X-ray crystallography</li><li>➤ Protein synthesis</li><li>➤ Deep expertise in Oncology, Immunology, Pain &amp; Inflammation, Metabolic Disorders.</li></ul> |
| GMP       | <ul style="list-style-type: none"><li>➤ Early process &amp; analytical development</li><li>➤ GMP synthesis up to phase I from clean room (100L scale)</li><li>➤ TrialStat EDC software</li></ul>   |

## Business Revenues



# Strategy: Transformational new Site Investments will propel the business onto the stage of Global TOP Tier CRO's



1

## Expand Capacity & Capability in Greater Noida & Bengaluru

### New Capacity Addition

- During Q3 '21 a new chemistry R&D site will be created in Greater Noida. Capacity will be doubled.
- By H2 '23, a new site in Bengaluru is being planned which will replace our existing site and more than double capacity for growth.
- A new GMP Pilot plant is being planned for up to phase 2 supplies.
- An expanded PR&D and AR&D lab for NCE's CDMO services will be added along side.
- A new GLP TOX lab also being planned which will complete the capabilities for IND filing for an NCE.

2

## Operational Efficiencies

### Increase Research Delivery Efficiency

- Roll out of ELN's for 500-600 FTE's was achieved successfully.
- Project EQUIP will drive further accuracy and data integrity assurance through new robust QA systems and SOP's.
- ISO 9001 certification will be pursued for both sites by Q1'22
- Business Excellence: work processes designed for speed and high quality, fast delivery of services.
- Increase knowledge and science base through increased PhD focus.

3

## New Customer Targets

### Identify New Customer Targets

- New customer targets for chemistry FTE's, notably big pharma & biotech segment
- Expand into S-Korea and Australia next to Japan
- Expand biotech customer base in both US and EU.
- **Focus on long term higher value contracts**

4

## ML/AI platform development along with chemistry & biology Technologies

### Add Digital & Technologies

- ML projects have started to deliver proof of concept and apply to our Biosys service offering.
- Digital services including TrialStat software are now offered in conjunction with CRO services.
- Flow chemistry technology will be exploited to enable synthesis of highly complex NCE's.
- Biology knowledge will be enhanced with new state of the art instruments and capabilities for compound screening.

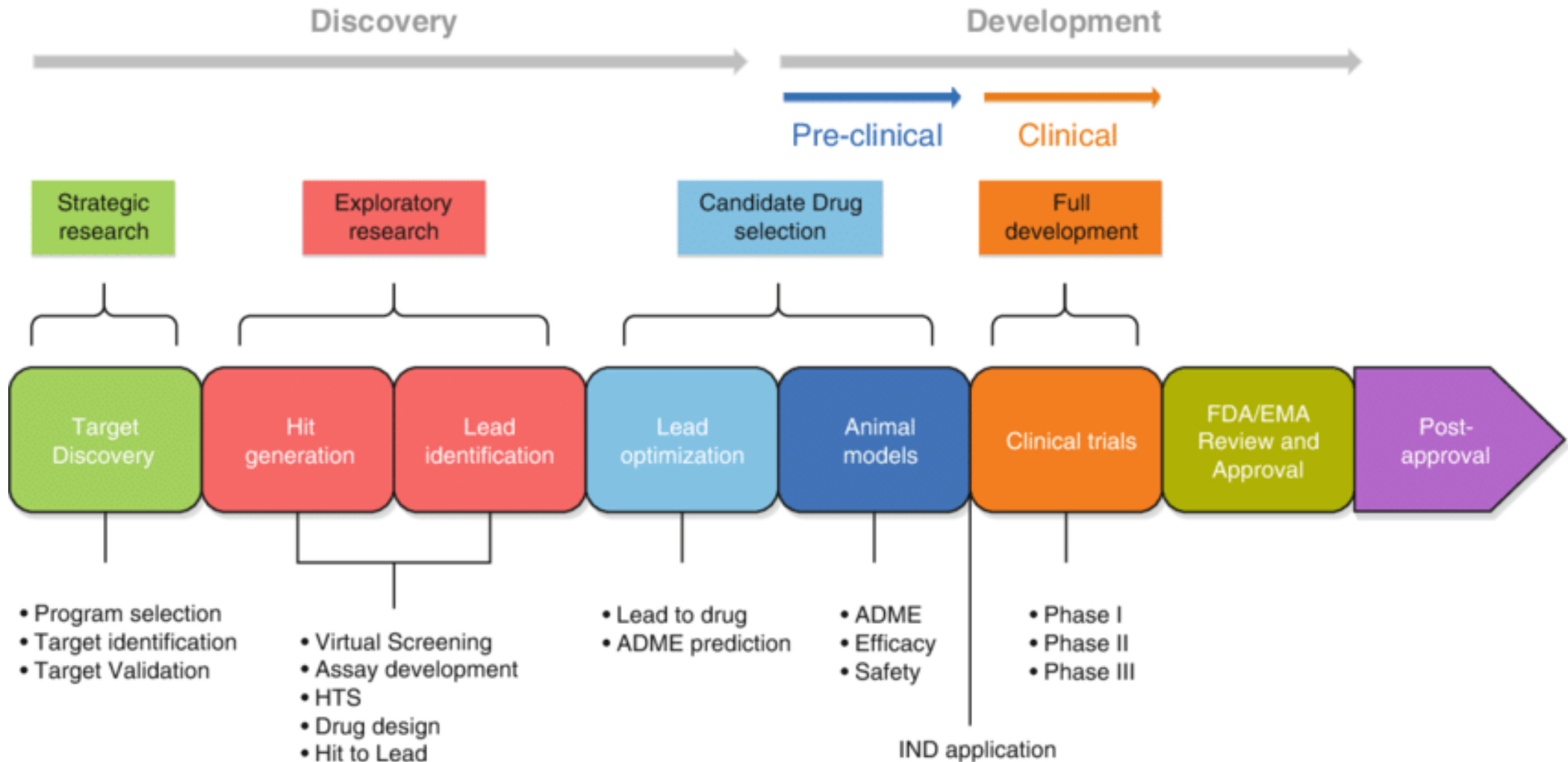
**Proprietary Novel Drugs - Jubilant Therapeutics**



# Drug Discovery and Development Process



- There are several core “steps” carried out during drug discovery and development

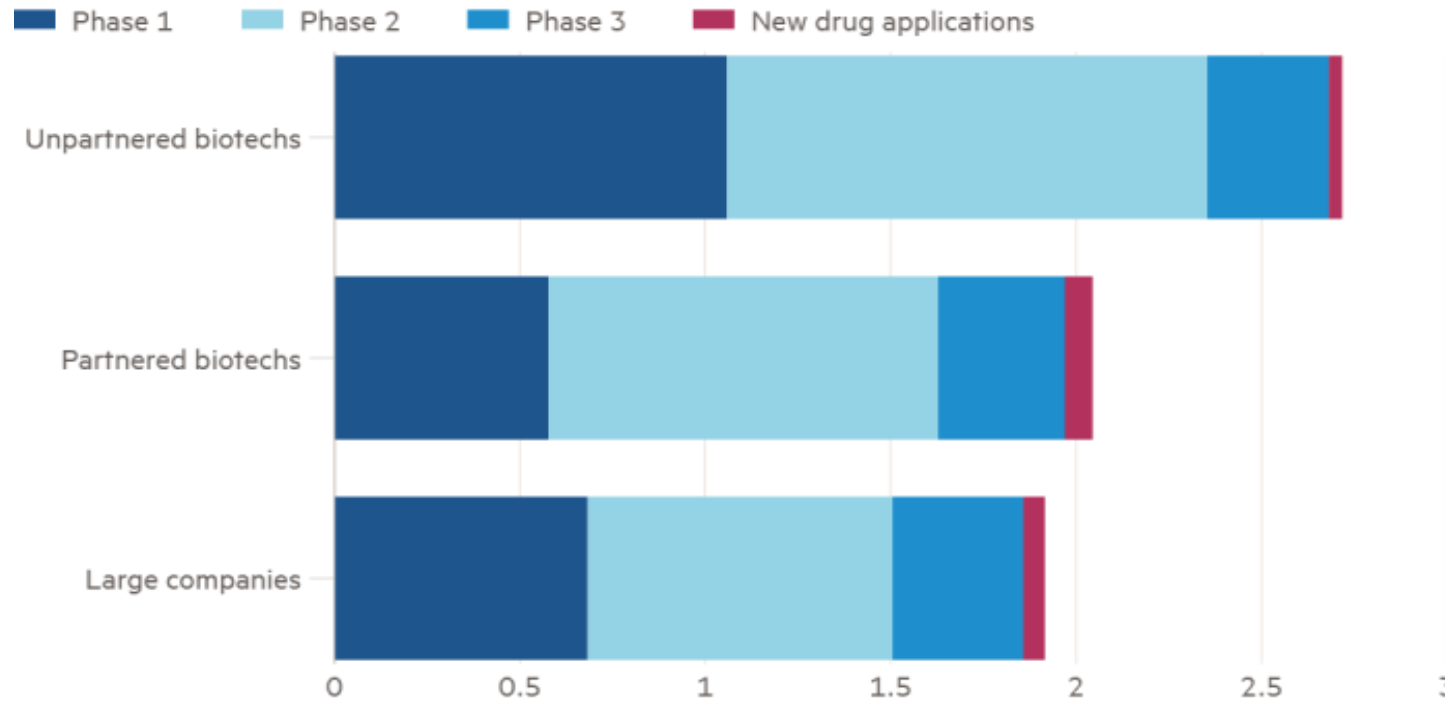


# Rise of Biotechs in New Drug pipeline



## Biotech companies dominate new drug pipelines

Number of active clinical-stage drug programmes (000)



- More new drugs in pipeline of biotech companies than traditional pharma MNCs
- External innovation/ partnering with biotech increasingly important for Pharma
- Over two-thirds of Big-pharma's late stage pipeline derived from external innovation/ partnering with biotech
- 36%+ total investments of Big-pharma is in biotech deals

Source: BIO  
© FT

*Partnering pipeline programs with large pharma, other biotech and VCs with upfront, milestone and equity linked deals is key value unlocking opportunity for Jubilant Therapeutics*

# Biotech IPO Valuations have grown significantly in recent years



- There's significantly more demand for biotech IPOs today compared to few years back, as seen in IPO pricing and post money valuations
- Earlier stage companies are going public
  - Increasingly companies at preclinical to Phase 1 stages going public over the last 3 years
  - Majority of these companies have oncology and small molecule focus
  - > 50% of IPOs in 2020 & 2021 YTD have lead asset in preclinical / phase 1 stage
- **Recent Preclinical and Phase 1 stage IPO pricing**
  - Preclinical biotech IPOs pre-money range: \$499M (bottom quartile) - \$718M (top quartile)
  - Phase I stage biotech IPOs pre-money range: \$389M (bottom quartile) - \$569 (top quartile)
  - Most IPOs have prior crossover round

*Similarly, Jubilant Therapeutics has an equally attractive pipeline with LSD1/HDAC6, PAD4 and PRMT5 as the lead programs with opportunity to raise capital through private placement/public markets*

# Jubilant Therapeutics: private biotech transitioning from preclinical to clinical stage



## Business Overview

- Advancing potent and selective small molecule modulators in late preclinical development to address unmet medical needs in oncology and autoimmune diseases
- Launched in 2019 in Bedminster, NJ with discovery labs in India
- Programs incubated inside Jubilant for 3+ years prior to company launch
- Transitioning to clinical stage in 6-9 months;

## Key Differentiators

- Novel, precision therapeutics against both first-in-class and validated but intractable targets in genetically-defined patient populations utilizing state-of-the-art discovery platform
- Leadership with large pharma and biotech pedigree, experienced in bringing novel compounds from discovery to the clinics
- 25+ biologists and chemists with decades of integrated drug discovery expertise
- KOLs and SAB from world class institutions such as Memorial Sloan, Francis Crick and Dana Farber

## Pipeline

| Asset            | Indications                           | Next Milestone        | Differentiation   |
|------------------|---------------------------------------|-----------------------|---|
| Dual LSD1/HDAC6i | Hematological cancers<br>Solid tumors | IND filing<br>2H 2021 | First in class dual mechanism with selective inhibition of two different targets part of the CoREST complex |
| PRMT5i           | Glioblastoma;<br>Lymphoma             | IND Filing<br>1H 2022 | A novel brain penetrant inhibitor with differentiated binding modality                                      |
| PAD4i            | Autoimmune,<br>Oncology               | IND Filing<br>1H 2022 | Unique first in class mechanism with excellent therapeutic margin and no signs of immune suppression        |

- Additional development program - Oral PD-L1 (oncology)
- Undisclosed discovery programs - Intractable targets in Oncology
- Past programs partnered with Frazier Healthcare and Checkpoint Therapeutics

# Powerful integrated R&D platform to generate a differentiated clinical portfolio in genetically defined patient populations



## SBDD<sup>1</sup> Platform

- Integrates computational chemistry, structural biology, SPR<sup>2</sup> screening with SAR<sup>3</sup>
- Algorithmic approach for Optimization of therapeutic index
- Systematic translational data analysis to identify novel, precision-medicine based clinical strategies
- Overall integrated approach enable faster and less costly human PoC determination

1. Structure based drug design

2 Surface Plasmon Resonance

3 Structure Activity Relationship

## Dual LSD1/HDAC6

- Novel dual mechanism to address limitation of existing approaches
- Selective inhibition of two validated oncology targets leads to improved therapeutic index
- AI-enabled biomarkers for patient stratification

## PRMT5

- Isoform selective blocker with enhanced brain exposure for glioblastoma and brain mets
- Differentiated binding modality

## PAD4

- First in class program for autoimmune and oncology indications without immunosuppression
- Genetic data supports superior safety profile compared with SOC like TNFalpha or JAK inhibitors



## Market potential of key indications

|            | Key indications | Est. Market size (7 major markets- US, 5 EU, Japan) |
|------------|-----------------|---|
| LSD1-HDAC6 | AML             | \$4.5B (in 2029)                                    |
|            | SCLC            | \$1.8B (in 2029)                                    |
| PAD4       | RA              | \$29 B (in 2029)                                    |
|            | HS              | \$1.8B (in 2028)                                    |
| PRMT5      | GBM             | \$1.4B (in 2027)                                    |
|            | MCL             | \$1B (in 2027)                                      |

## Asset-wise comparable companies

| Jubilant Asset       | Comparable Company | Value  | Methodology                 |
|----------------------|--------------------|--------|-----------------------------|
| LSD1/HDAC6 inhibitor | Oryzon             | \$235M | Mkt cap                     |
|                      | Imago              | \$180M | Series C pre-money (Nov'20) |
| PAD4 Inhibitor       | Padlock/BMS        | \$150M | M&A upfront (Mar '16)       |
| PRMT5 inhibitor      | Prelude            | \$1.5B | Mkt cap                     |
|                      | Tango              | \$900M | SPAC merger (Apr'21)        |

- Transitioning to clinical stage in early 2022 with dual LSD1/HDAC6 inhibitor IND filing and Phase-I thereafter in subsets of AML, MPN and select solid tumors with specific gene signatures
- Next two IND filings in 1H 2022
  - Differentiated PRMT5 inhibitor with high brain exposure for glioblastoma and lymphoma
  - PAD4 inhibitor for autoimmune, oncology
- The Company is working towards creating shareholder value in this business through pharma/biotech partnerships and private / public equity raise during coming 18-24 months

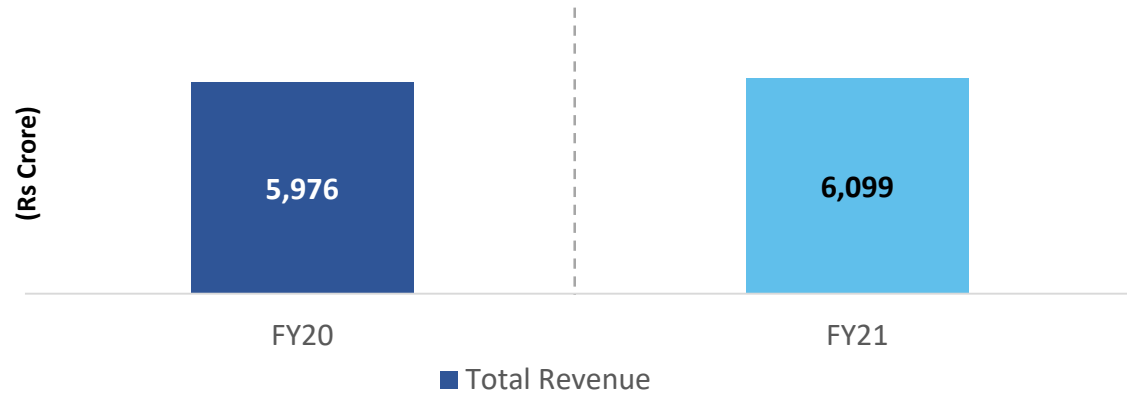
## Jubilant Pharmova - Financials



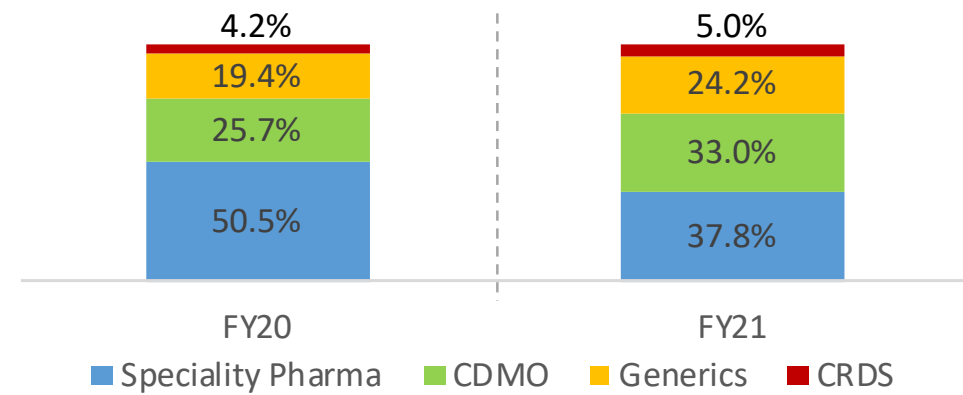
# Financial Performance | P&L



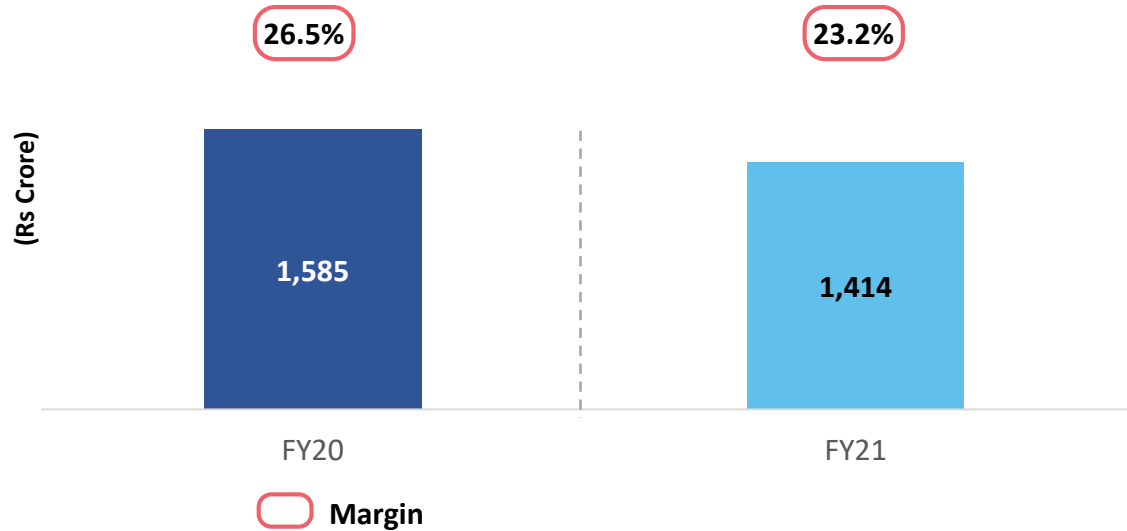
### Revenue from Operations



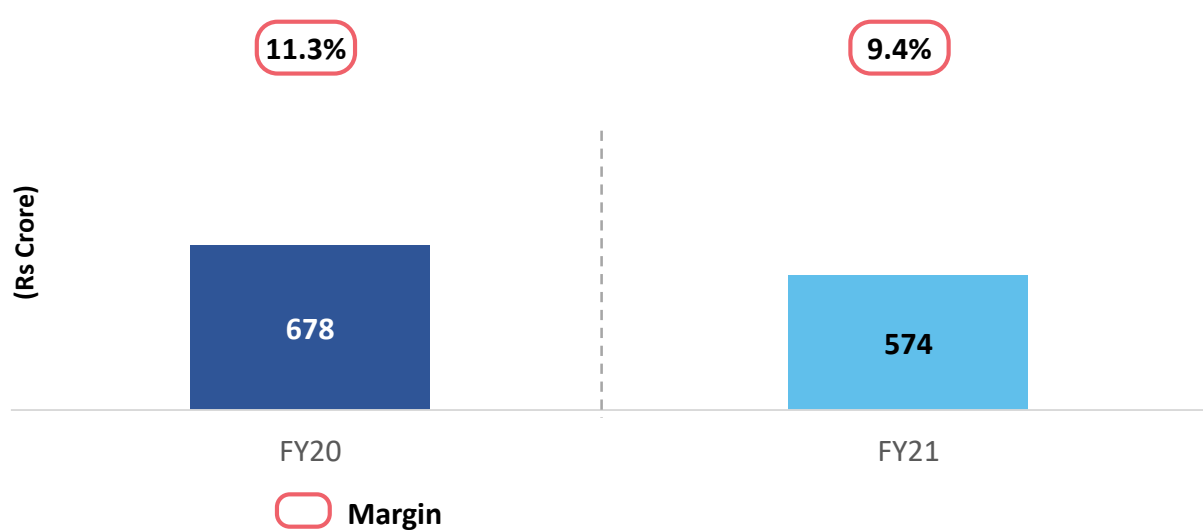
### Revenue by Segment



### EBITDA



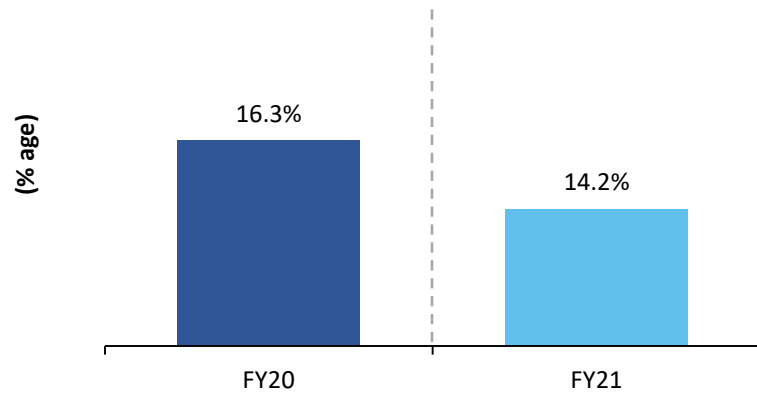
### PAT



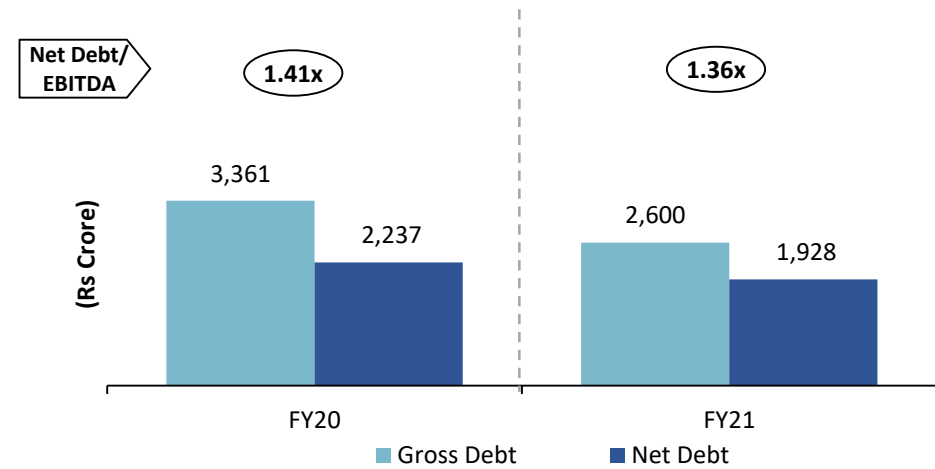
# Financial Performance | Balance Sheet



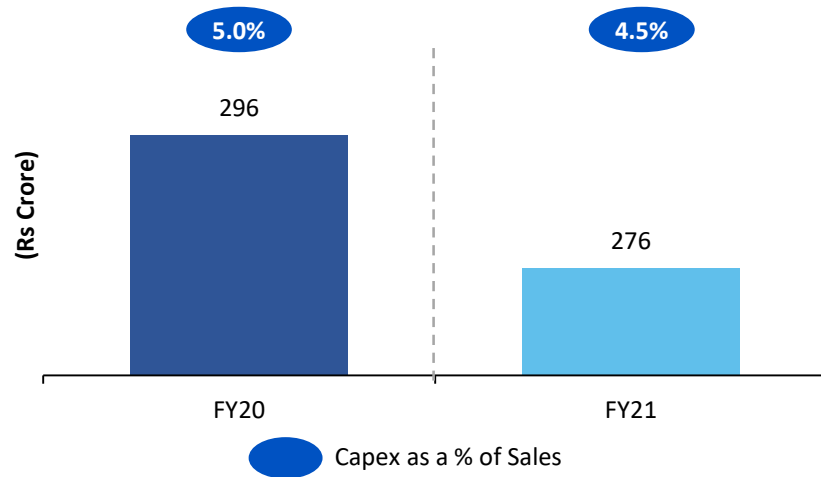
## Return On Capital Employed (ROCE)



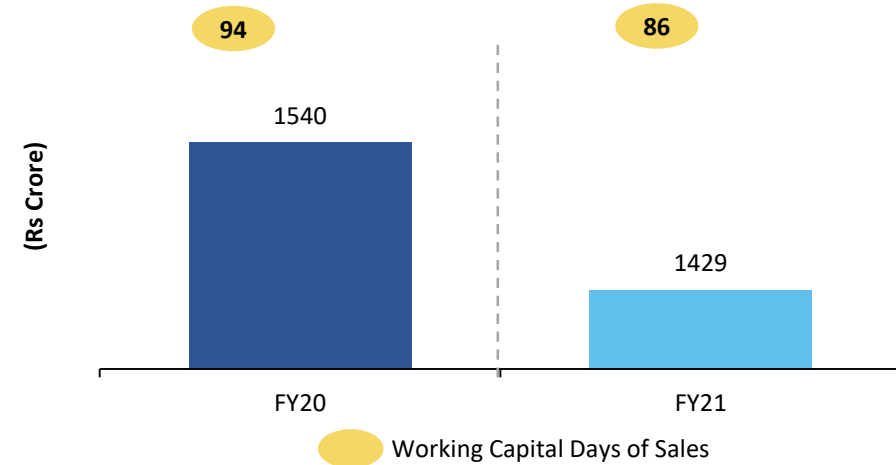
## Leverage



## Capital Expenditures



## Working Capital



# Financial Performance | FY21



| Particulars <sup>1</sup>   | FY20         | FY21         | YoY (%)     |
|--|--------------|--------------|-------------|
| <b>Revenue</b>   |              |              |             |
| <b>Pharmaceuticals</b>   | <b>5,714</b> | <b>5,790</b> | <b>1%</b>   |
| Specialty Pharma   | 3,019        | 2,303        | (24%)       |
| CDMO   | 1,536        | 2,010        | 31%         |
| Generics   | 1,159        | 1,476        | 27%         |
| <b>Contract Research and Development Services</b>                | <b>251</b>   | <b>305</b>   | <b>21%</b>  |
| <b>Proprietary Novel Drugs</b>                                   | <b>10</b>    | <b>4</b>     |             |
| <b>Total Revenue from Continuing Operations</b>                  | <b>5,976</b> | <b>6,099</b> | <b>2%</b>   |
| <b>EBITDA</b>  |              |              |             |
| <b>Pharmaceuticals</b>   | <b>1,555</b> | <b>1,386</b> | <b>-11%</b> |
| <b>Contract Research and Development Services</b>                | <b>85</b>    | <b>109</b>   | <b>27%</b>  |
| <b>Proprietary Novel Drugs</b>                                   | <b>(12)</b>  | <b>(13)</b>  | <b>-</b>    |
| <b>EBITDA from Continuing Operations</b>                         | <b>1,629</b> | <b>1,481</b> | <b>-9%</b>  |
| <b>Reported EBITDA</b>   | <b>1,585</b> | <b>1,414</b> | <b>-11%</b> |
| Depreciation and Amortization                                    | 340          | 349          | 3%          |
| Finance Cost   | 200          | 184          | -8%         |
| <b>Profit before Tax (Before share of profit in Associates /</b> | <b>1,046</b> | <b>881</b>   |             |
| Profit / (Loss) from Associates                                  | 0            | 11           |             |
| <b>Profit before Tax (Before Exceptional Items)</b>              | <b>1,046</b> | <b>892</b>   |             |
| Exceptional Items  | 33           | 21           |             |
| <b>Profit before Tax (After Exceptional Items)</b>               | <b>1,013</b> | <b>871</b>   | <b>-14%</b> |
| Tax Expenses (Net)   | 335          | 297          |             |
| <b>PAT</b>   | <b>678</b>   | <b>574</b>   | <b>-15%</b> |
| <b>EPS (Rs)</b>  | <b>42.55</b> | <b>36.04</b> | <b>-15%</b> |
| <b>EBITDA Margins</b>  |              |              |             |
| <b>Pharmaceuticals</b>   | <b>27.2%</b> | <b>23.9%</b> |             |
| <b>Contract Research and Development Services</b>                | <b>34.0%</b> | <b>35.6%</b> |             |
| <b>Reported EBITDA</b>   | <b>26.5%</b> | <b>23.2%</b> |             |

- LSI business demerged from February 1, 2021 into Jubilant Ingrevia. Continuing business revenue was Rs 6,099 Crore versus Rs 5,976 Crore in FY20
  - Pharmaceuticals revenue at Rs 5,790 Crore vs. Rs 5,714 Crore in FY20
  - Contract Research and Development Services revenue at Rs 305 Crore up 21% YoY
- Continuing business reported EBITDA at Rs 1,414 Crore for FY21
  - Pharmaceuticals EBITDA at Rs 1,386 Crore vs. Rs 1,555 Crore. EBITDA margin of 23.9% as compared to 27.2% in FY20
  - Contract Research and Development Services EBITDA at Rs 109 Crore up from Rs 85 Crore in FY20; EBITDA margin at 35.6% as compared to 34.0% in FY20
- Finance costs at Rs 184 Crore versus Rs 200 Crore in FY20.
- Average blended interest rate for FY21 stood at 5.07% as against 5.39% in FY20 aided by reduction in gross debt
- Exceptional includes premium on early redemption of US\$200m Senior Notes
- Continuing business PAT at Rs 574 Crore vs. Rs 678 Crore in FY20
- EPS of Rs 36.04 vs. Rs 42.55 in FY20.
- Capex in FY21 of Rs 276 Crore

1. All figures are in Rs Crore unless otherwise stated

# Abbreviations



|      |  |
|------|--|
| AIT  | Allergen Immunotherapy                 |
| ANDA | Abbreviated New Drug Application       |
| API  | Active Pharmaceutical Ingredient       |
| ATP  | Allergy Therapy Business               |
| CDMO | Contract Development and Manufacturing |
| CMO  | Contract Manufacturing Operations      |
| CNS  | Central Nervous System                 |
| CVS  | Cardio-Vascular System                 |
| DMF  | Drug Master File                       |
| DTPA | Diethylene Triamine Penta Acetic Acid  |

|       |  |
|-------|--|
| GPO   | Group Purchasing Organization  |
| I-131 | Iodine-131   |
| IND   | Investigational New Drug   |
| MAA   | Macro Aggregates of Albumin  |
| MHRA  | Medicines and Healthcare Products Regulatory Agency (United Kingdom) |
| NDA   | New Drug Application   |
| PET   | Position Emission Tomography   |
| PMDA  | Pharmaceuticals and Medical Devices Agency (Japan)                   |
| USDA  | The United States Department of Agriculture                          |
| USFDA | United States Food and Drug Administration                           |

Thank You

**Corporate Office**

1-A, Sector-16A, Noida-201301, UP, India  
Email: [support@jubl.com](mailto:support@jubl.com) | For more Info : [www.jubilantpharmova.com](http://www.jubilantpharmova.com)