



# CYCLOPHARM

**BELL POTTER HEALTHCARE CONFERENCE**

---

James McBrayer, CEO & Managing Director

**26 November 2020**



# SAFE HARBOUR STATEMENT

Certain views expressed here contain information derived from publicly available sources that have not been independently verified.

The presentation includes certain statements, estimates and projections with respect to the anticipated future financial performance of Cyclopharm Limited and as to the markets for the company's products. Such statements, estimates and projections reflect various assumptions made by the directors concerning anticipated results, which assumptions may or may not prove to be correct. Cyclopharm Limited has not sought independent verification of information in this presentation.

While the directors believe they have reasonable grounds for each of the statements, estimates and projections and all care has been taken in the preparation, no representation or warranty, express or implied, is given as to the accuracy, completeness or correctness, likelihood of achievement or reasonableness of statements, estimates and projections contained in this presentation. Such statements, estimates and projections are by their nature subject to significant uncertainties, contingencies and assumptions.

To the maximum extent permitted by law, none of the Cyclopharm Limited, its directors, employees or agents, nor any other person accepts any liability, including, without limitation, any liability arising out of fault or negligence, for any loss arising from the use of information contained in this presentation.

All references to dollars unless otherwise specified are to Australian dollars.

# COMPANY OVERVIEW

Cyclopharm Limited (CYC) is a leading diagnostic lung imaging company

1

Lead nuclear medicine product **Technegas®** is currently available in **60 countries** with significant opportunity to expand into the USA with sales targeted for 2021 following completion of **USFDA** New Drug Application review

2

The **gold standard & world leader** in functional lung ventilation imaging technology - supported by 4.3 million patient studies and 100's of peer reviewed published studies with **COVID-19** applications for use

3

**Recurring consumables** and capital equipment revenue streams

4

A **profitable** and **growing** company with a history of **dividend** payments

5

Opportunity to broaden Technegas® applications **Beyond pulmonary embolism** diagnosis into large addressable markets such as COPD and Asthma



# PULMONARY EMBOLISM



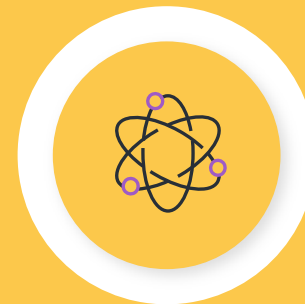
**~3 million cases of PE p.a.**  
but could be much higher



**Symptoms**  
are varied with diagnosis confirmed either through CTPA or a nuclear medicine ventilation-perfusion study



**30%**  
of pulmonary embolisms are fatal if left untreated



**Nuclear Medicine**  
using 3-D imaging is the most accurate method of diagnosis

# WHAT THE GUIDELINES SAY ABOUT TECHNEGAS® :

Endorsed by the guidelines from the European<sup>1-2</sup> and the Canadian<sup>3</sup> Associations of Nuclear Medicine (EANM & CANM)

1. Bajc M, et al. Eur J Nucl Med Mol Imaging 2019; [Epub ahead of print]; <https://link.springer.com/content/pdf/10.1007%2Fs00259-019-04450-0.pdf>
2. Bajc M, et al. Eur J Nucl Med Mol Imaging 2009; 36(8): 1356-70; [https://eanm.org/publications/guidelines/gl\\_pulm\\_embolism\\_part1.pdf](https://eanm.org/publications/guidelines/gl_pulm_embolism_part1.pdf)
3. Leblanc M, et al. CANM 2018; [https://canm-acmn.ca/resources/Documents/Guidelines\\_Resources/MasterDocument\\_Final\\_Nov\\_21\\_incl-Exec-Sum\\_ver3\\_Dec.%2012\\_.pdf](https://canm-acmn.ca/resources/Documents/Guidelines_Resources/MasterDocument_Final_Nov_21_incl-Exec-Sum_ver3_Dec.%2012_.pdf) 2.a



“ Using 99m-Tc-Technegas is according to clinical experience **better than the best aerosols** ”

“ Technegas® **facilitates interpretation**, particularly in COPD ”

“ For ventilation, **99m-Tc Technegas® is the best-aerosol** particularly in patients with COPD ”

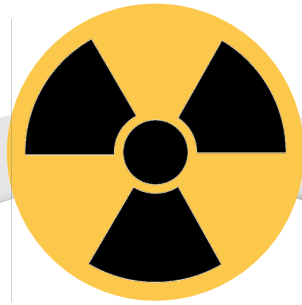
“ **Liquid aerosols are inferior for SPECT** and should not be used unless Technegas® is not available ”

“ The **best widely available agent for ventilation** is 99m-Tc-Technegas ”

“ Because of the very small particle size, this agent is distributed in the lungs almost like a gas and deposited in alveoli by diffusion, where they remain stable, thus **providing the best possible images for ventilation** SPECT ”

“ Another advantage is that only a few breaths are sufficient to achieve an adequate amount of activity in the lungs, **reducing time and personnel exposure to radiation** ”

“ Technegas® is considered the **agent of choice** in the COPD population as there is less central airway deposition, better peripheral penetration, and it does not wash out as quickly as traditional aerosols ”



# RADIATION DOSIMETRY

A nuclear medicine V/Q scan is **exponentially lower** in dose than CTPA

Technique	Effective dose (mSv/MBq)	Effective dose (mSv)	Breast absorbed dose (mGy)	Lung absorbed dose (mGy)
Ventilation Technegas (20MBq) <sup>1-3</sup>	0.015	0.30	0.13	2.2
Ventilation <sup>99m</sup> Tc-DTPA (20MBq) <sup>1-2</sup>	0.007	0.14	0.04	0.30
Ventilation <sup>133</sup> Xe (800MBq) <sup>1</sup>	0.0014	1.12	0.09	0.89
Perfusion MAA (120MBq) <sup>1-3</sup>	0.012	1.44	0.60	7.92
Low dose CT non-contrast <sup>4</sup>	NA	~ 1.00	-	-
CTPA 16 slice <sup>1</sup>	NA	14.4	10-20	10
CTPA 64 slice <sup>1,3</sup>	NA	19.9	22	20

1. Bajc M, et al. Eur J Nucl Med Mol Imaging 2009; 36(8): 1356-1370  
2. Schembri GP, et al. Semin Nucl Med 2010; 40: 442-454

3. Isidoro J, et al. Phys Med 2017; 41: 93-96  
4. Ling IT, et al. Intern Med J 2012; 42(11): 1257-1261

# NUCLEAR MEDICINE PROVIDES BETTER DIAGNOSTIC OUTCOMES IN DIAGNOSING PE

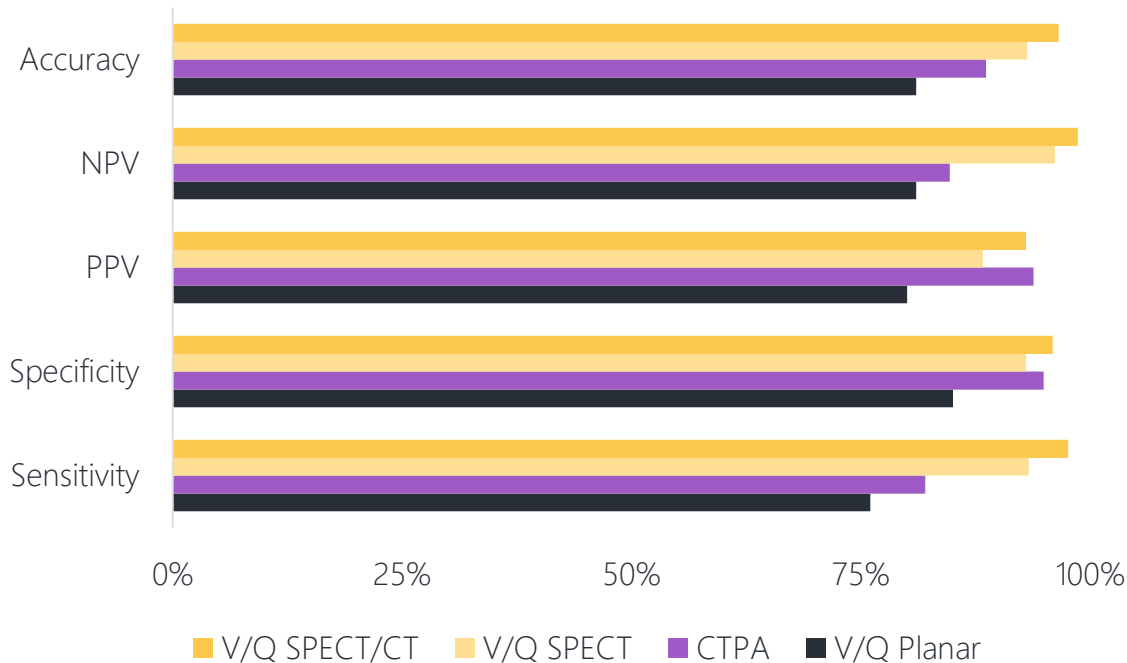


Table: Diagnostic ability of V/Q SPECT/CT<sup>1</sup>, V/Q SPECT<sup>1</sup>, CTPA<sup>1</sup> and V/Q Planar<sup>2</sup> to detect PE (adapted from Hess and al, 2016<sup>1</sup> and from Reinartz et al, 2004<sup>2</sup>)

- V/Q SPECT and V/Q SPECT/CT have shown that V/Q SPECT/CT is superior in most clinical settings with better overall diagnostic performance<sup>1</sup>
- In situation of acute PE, chronic PE pregnancy, paediatrics and the COPD population, V/Q SPECT, with or without low-dose CT, can be considered as a first-line investigation to detect PE<sup>3</sup> due to:



Its low radiation and no adverse reactions<sup>3</sup>



Its higher accuracy, sensitivity and negative predictive value when compared to CTPA<sup>3</sup>

1. Hess S, et al. Semin Thromb Hemost 2016; 42(8): 833-845

2. Reinartz P, et al. J Nucl Med 2004; 45: 1501-1508

3. Leblanc M, et al. CANM guidelines; Nov 2018: www.canm-acmn.ca/guidelines





# BENEFITS OF USING TECHNEGAS®



**Easy**  
to prepare  
and administer



**Only need**  
3 to 4 breaths



**3D images**  
provide functional  
imaging through to the  
alveolus



**NO**  
contraindications



**Cost**  
effective

# SUPERIOR TO COMPETITIVE NUCLEAR MEDICINE PRODUCTS

## Technegas®



Easy



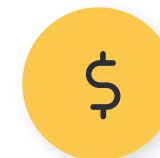
3 to 4 breaths



3D images



No contraindications



Cost-effective

## Xenon - 133



True radioactive gas inhaled with **full face mask**



No 3D images **limited to planar imaging** resulting in inferior clinical outcomes



Constant inhale-exhale breathing for **15 mins**



**Requires special rooms** to contain radioactive gas in the event of a release

## DTPA Tc99m



**Wet Aerosol** impacts efficacy and clinician interpretations



**Creates hotspots** in presence of small airways lung diseases, which is a frequent comorbidity in PE

# SUPERIOR TO COMPETITIVE IMAGING MODALITIES

## Technegas®



Easy



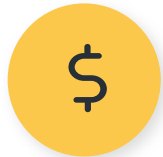
3 to 4 breaths



3D images



No  
contraindications



Cost-effective

## CTPA



### High radiation burden

CTPA delivers at least 27 times more radiation to the breast as compared to V/Q SPECT<sup>1</sup>



### Contraindications

CTPA should not be performed with pregnancy<sup>1-2</sup>, renal impairment<sup>3</sup>, contrast media allergy<sup>3</sup>, diabetes<sup>4</sup>



### Acute kidney injury (AKI)

AKI occurs in up to 13% of CTPA cases<sup>5</sup>



### Lower clinical sensitivity

V/Q planar<sup>6</sup> = 76%  
CTPA<sup>7</sup> = 82%  
V/Q SPECT<sup>7</sup> = 93%



### Availability

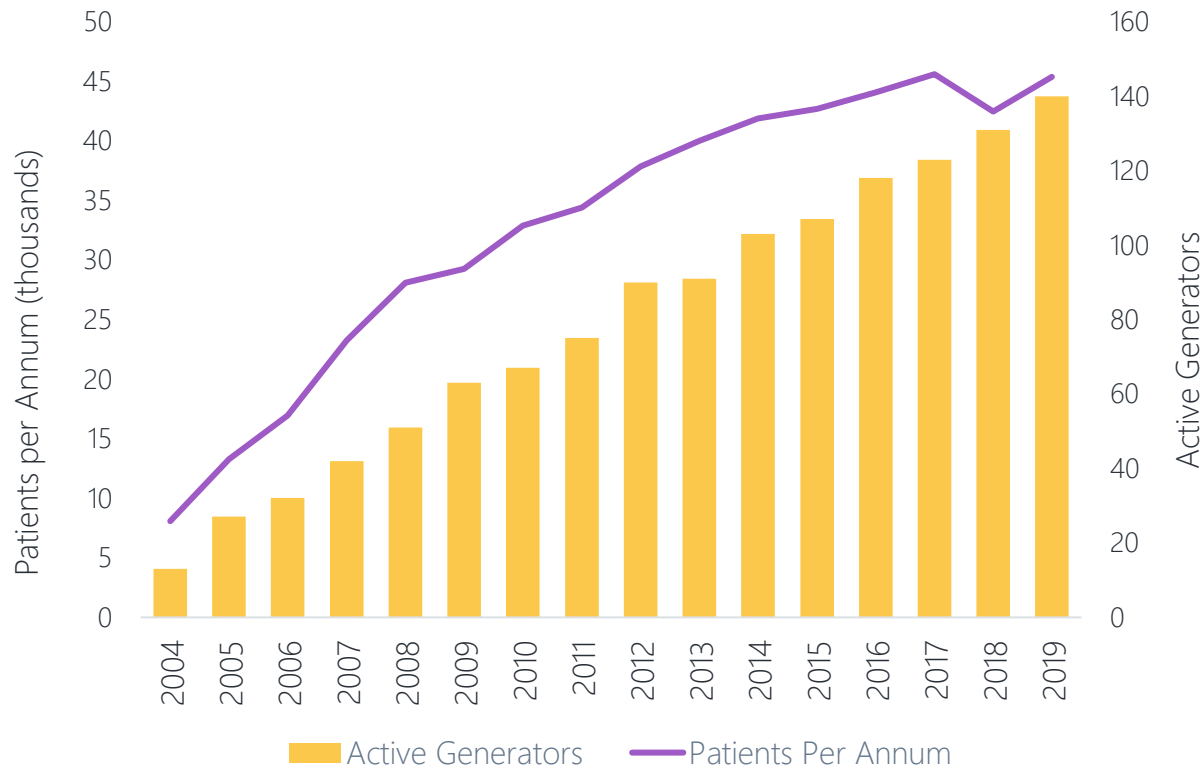
Radiology ED services are generally provided 24/7 vs. nuclear medicine after hours on call service

1. Isidoro J, et al. Phys Med 2017; 41: 93-96
2. Bajc M, et al. Eur J Nucl Mol Imaging 2015; 42: 1325-1330
3. Miles S, et al. Chest 2009; 136: 1546-1553
4. Roach PJ, et al. J Nucl Med 2013; 54: 1588-1596
5. Doganay S, et al. Renal Failure 2015; 37(7): 1138-1144
6. Reinartz P, et al. J Nucl Med 2004; 45: 1501-1508
7. Hess S, et al. Semin Thromb Hemost 2016; 42(8): 833-845

# TECHNEGAS®

## The Canadian Case Study

The Generator and Consumable Relationship  
Technegas® Growth - Canada

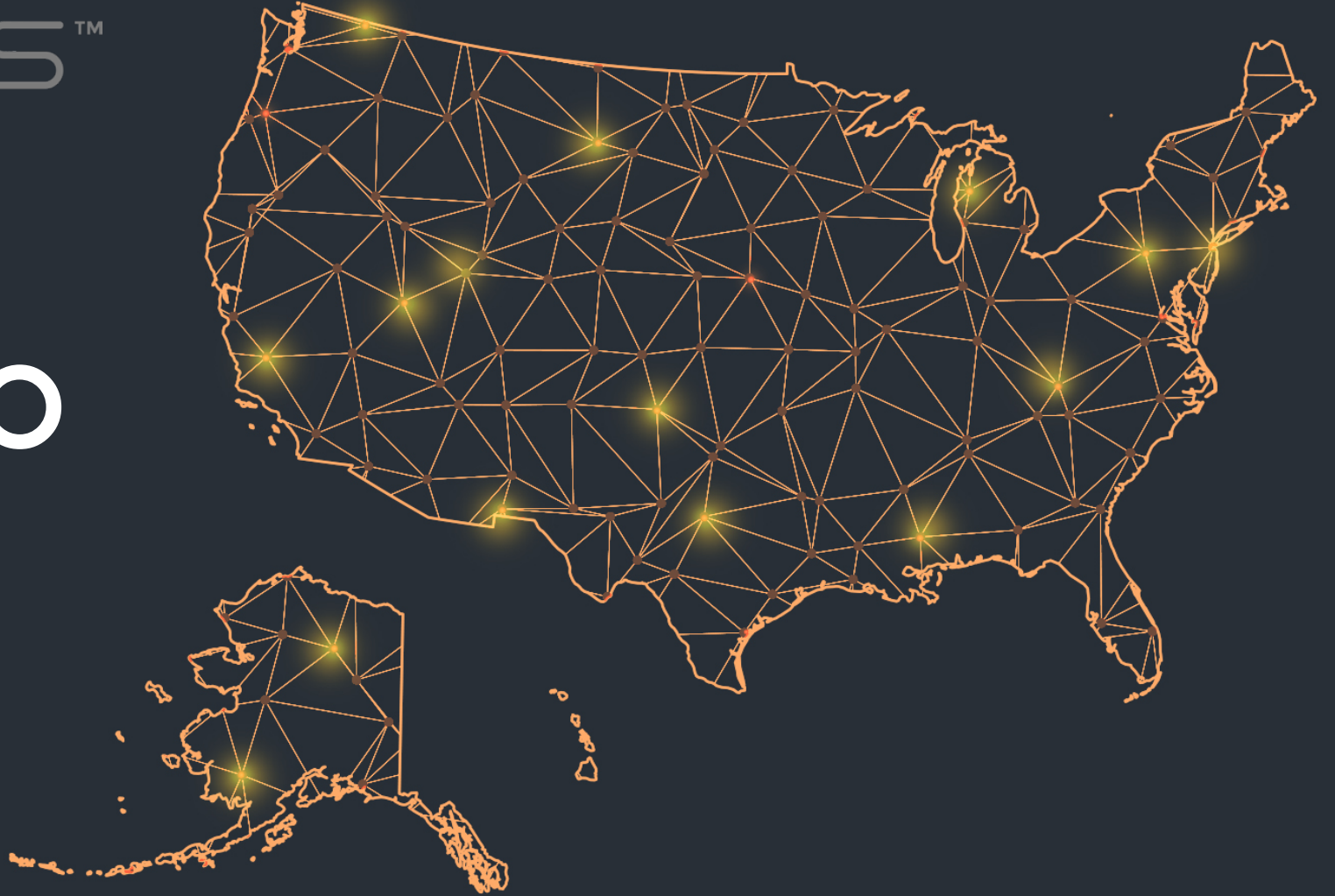


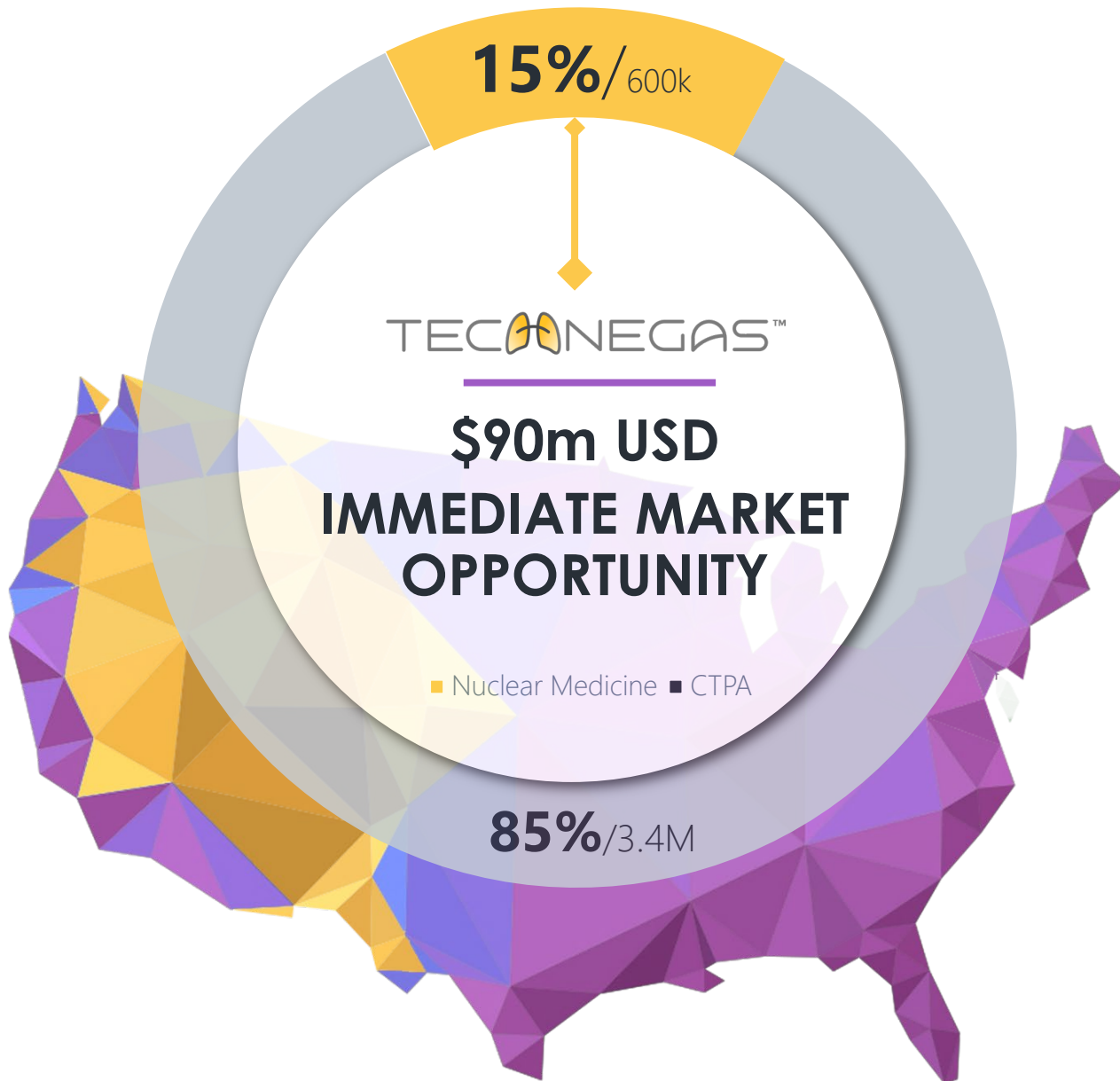
Canada is Cyclopharm's largest single country market

- 1 Market leader for diagnosing PE
- 2 14 consecutive years of PAS growth
- 3 Represents a strong indicator of USA acceptance
- 4 Xe-133 rapidly displaced by early adopters
- 5 Direct correlation with the number of active generators and annual consumable sales
- 6 Market driven by public healthcare sector
- 7 Market launch initiated province by province, leveraging off pilot sites

TECONEGAS™

COMING TO  
AMERICA





## 600K Nuclear Medicine Ventilation Procedures p.a.

- 4,000,000 patient procedures conducted in the USA per annum to diagnose pulmonary embolism (15% Nuclear Medicine – 85% CTPA)
- 600,000 Nuclear Medicine Ventilation procedures equals \$90m USD
- Target market for Technegas® in the USA equates to ~480,000 patient procedures of the total 600,000 procedures.
- The USA represents the single largest market for Technegas® with half of the world's nuclear medicine departments
- Subject to a successful FDA approval, the Company is targeting US commercialisation in 2021
- First priority following USFDA approval is to repeat our Canadian experience by first **displacing Xe133** followed by **DTPA** as the standard of care diagnostic product
- 3D SPECT imaging using Technegas® is proven to be **clinically superior and safer than CTPA**. Once commercialised Cyclopharm will target to **double the existing nuclear medicine PE market** dominated by CTPA from 15% to 30%.
- Once established in the USA market, the company will seek to expand the use of Technegas® into disease states exponentially larger than the existing markets **Beyond PE**

# USA REIMBURSEMENT IS ESTABLISHED



MEDICARE HOPPS (HOSPITAL OUTPATIENT PROSPECTIVE PAYMENT SYSTEM) \$USD

WWW.SNMMI.ORG

CPT/		Trade	Oct 2019	Jan F 2020	Oct 2019	Jan F 2020	Oct 2019	Final January CY 2020	%
HCPCS	Description	Name	APC	APC	SI	SI	Payment Rate	Payment Rate	Change
78579	Pulmonary ventilation imaging (eg, aerosol or gas)		5591	5591	S	S	\$353.49	\$368.08	4.0%
78580	Pulmonary perfusion imaging (eg, particulate)		5591	5591	S	S	\$353.49	\$368.08	4.0%
78582	Pulmonary ventilation imaging (eg, aerosol or gas) and perfusion imaging		5592	5592	S	S	\$455.52	\$471.93	3.5%
78597	Quantitative differential pulmonary perfusion, including imaging when performed		5591	5591	S	S	\$353.49	\$368.08	4.0%
78598	Quantitative differential pulmonary perfusion and ventilation (eg aerosol or gas), including imaging when performed		5592	5592	S	S	\$455.52	\$471.93	3.5%
78599	Unlisted respiratory procedure, diagnostic nuclear medicine		5591	5591	S	S	\$353.49	\$368.08	4.0%

1

**Nuclear medicine lung imaging reimbursement is based on established procedures and is agnostic as to the ventilation agent used**

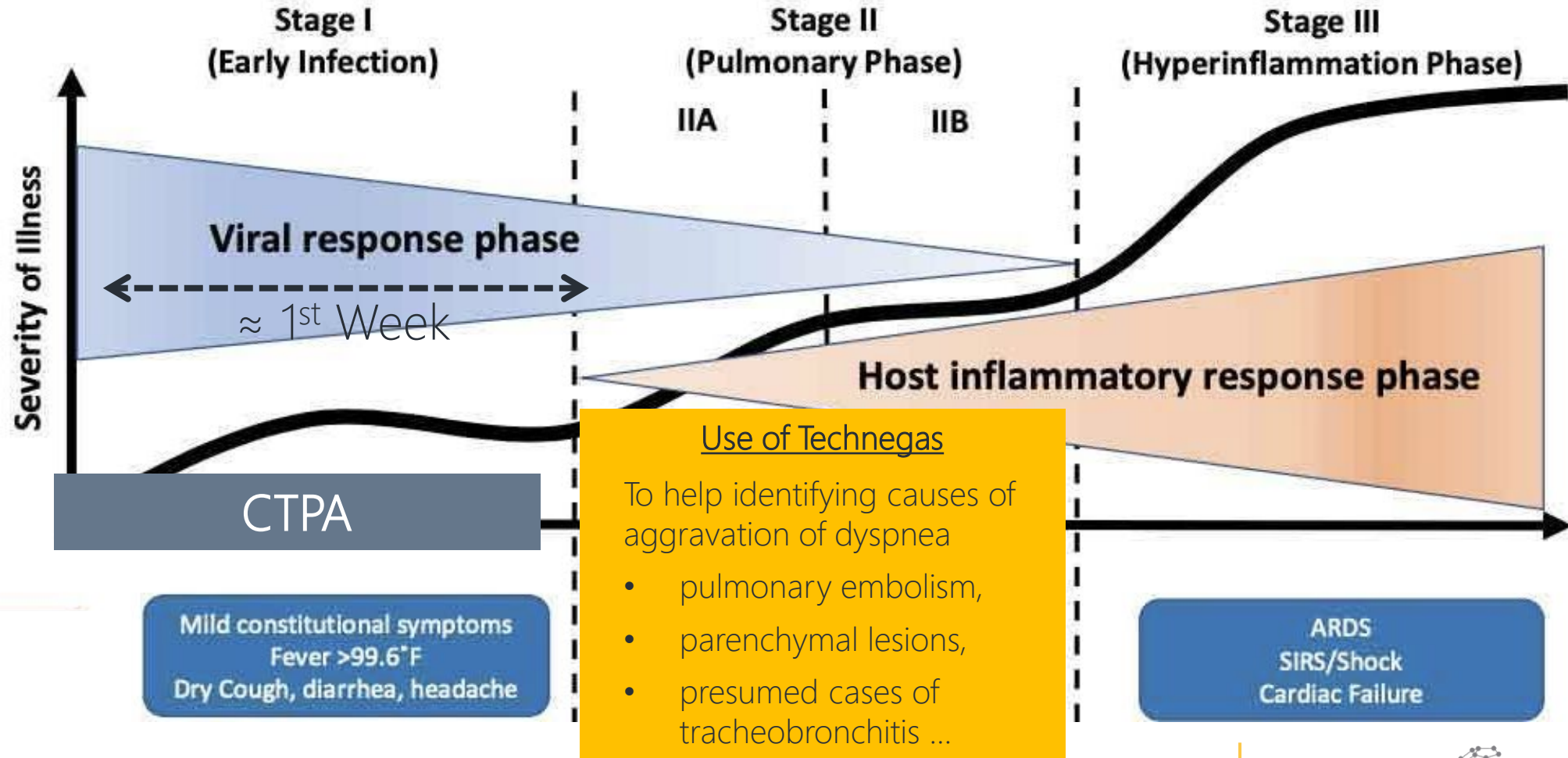
2

**Technegas will be reimbursed in the USA from Day 1**

# CYCLOPHARM:

Helping in the fight against COVID-19

## Nuclear Medicine Imaging In COVID19



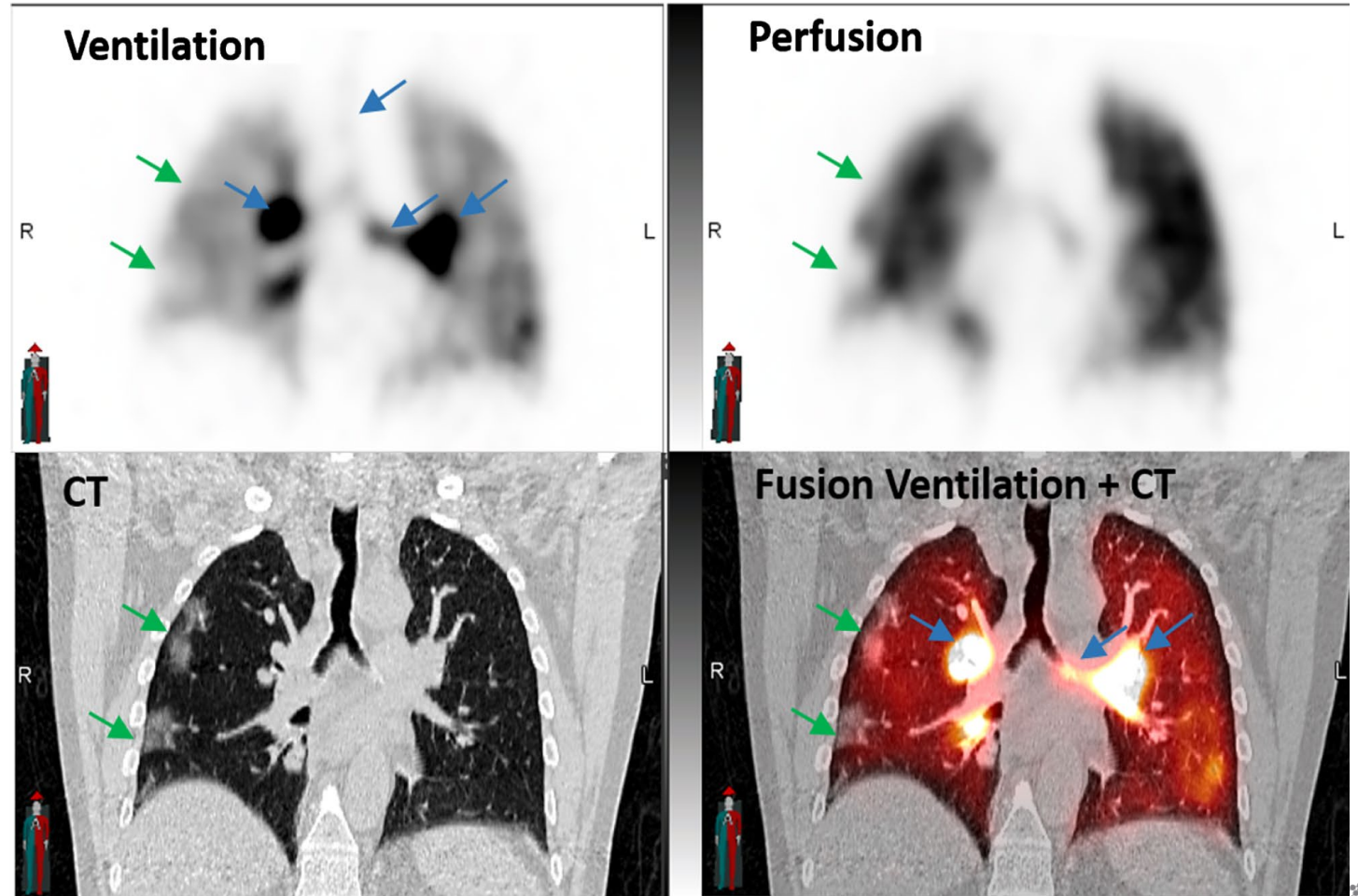


# CYCLOPHARM:

Helping in the fight  
against COVID-19



Technegas featured as the April “Image of the month” in diagnosing COVID-19 related Tracheobronchitis seen in ARDS



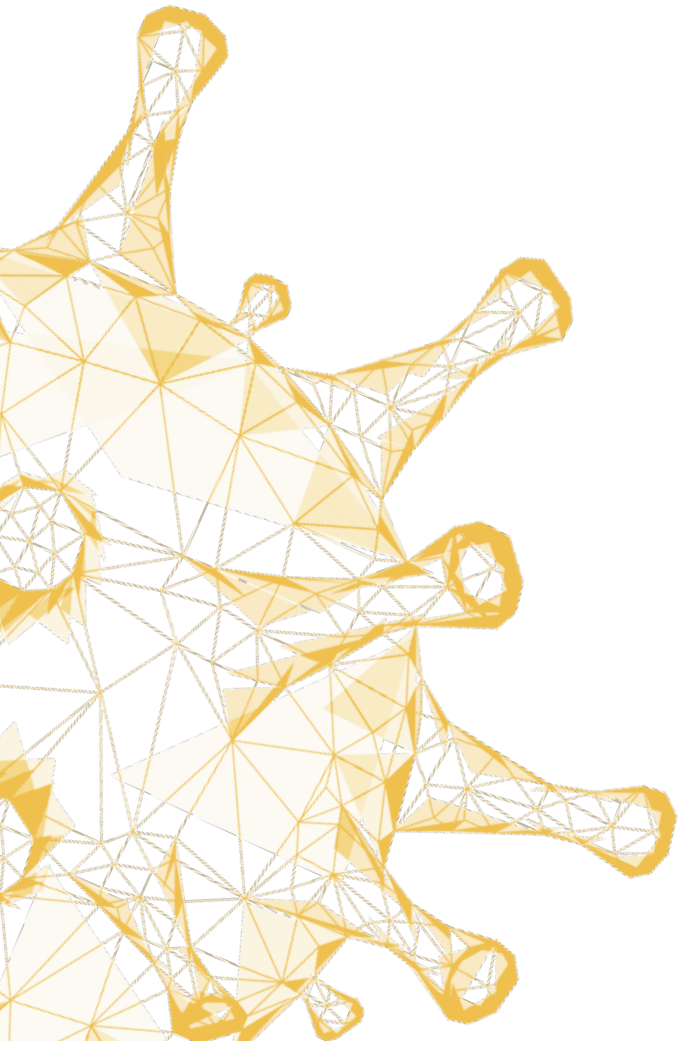
(Verger A, et al. Eur J Nucl Med Mol Imaging).

Investor Update



# CYCLOPHARM:

Helping in the fight  
against COVID-19



100-patient clinical trial designed to use ventilation perfusion SPECT-CT with Technegas\*:

1

Primary Endpoint:

To investigate and characterize the extent of COVID-19 infection related ventilation and perfusion injury at  $\leq 4$ -weeks and 6-months post infection recovery in asthmatic and healthy populations.

2

Secondary Endpoints:

To investigate if COVID-19 infection related ventilation and perfusion injury  $\leq 4$ -weeks and 6-months post infection recovery is related to inflammatory markers, symptoms (quality of life, dyspnea, exercise limitation) and clinical measurements (airflow in asthmatic and healthy populations)

3

To investigate if COVID-19 infection related ventilation and perfusion injury  $\leq 4$ -weeks post infection recovery is predictive of symptoms and clinical outcomes 6-months post infection recovery in asthmatic and healthy populations

Exploratory Objective:

To determine if COVID-19 infection related ventilation and perfusion injury)  $\leq 4$ -weeks and 6-months post SARS-CoV2 infection recovery is less pronounced in asthmatic compared to healthy populations and if this difference can be explained by protective mechanisms due to skewing of immune response (Th2/Th1 in asthma) and/or dampening of Th1 cytokine storm due to maintenance corticosteroid therapies.

# CYCLOPHARM:

Helping in the fight  
against COVID-19



Technegas is viewed as the safest nuclear  
medicine ventilation agent globally



1

#### Potential Operator and Environmental Exposure:

Xe-133 requires continuous rebreathing for up to 15 minutes.

DTPA requires 3-5 minutes of periodic administration to deliver the target dose

Technegas only requires 3-5 tidal breaths (~30 seconds)

2

#### Small hydrophobic particles:

DTPA is an aqueous droplet measuring ~1,700 nm in size is an ideal carrier for the COVID-19 virus

Technegas is made up of carbon-Tc99m particles ~250 nm in size that adheres to the alveolar & is not likely to carry the COVID-19 virus equal to ~125 nm

3

#### Less likely to induce cough reflex:

Xe-133 – patient likely to experiencing coughing during the prolonged procedural administration

DTPA- method of administration is likely to stimulate the cough reflex

Technegas- ~50ug of hydrophobic particles combined with ultrashort administration is not likely to cause bronchospasm

4

#### Significant US Clinical Support

22 June 2020 – **77 USA Nuclear Medicine Physicians** petition the USFDA to expedite the review of Technegas

2 November 2020 – **90 USA Nuclear Medicine Physicians** petition as a matter of clinical urgency the approval of Technegas in light of the surge in COVID-19 patients

# USA 2021 COMMERCIALISATION PLAN

## USFDA Regulatory Process

- Submission of 505(b)2 NDA March 2020
- Approval to file May 2020
- Clinical Trial Meets Primary and Secondary Endpoints



- Nuclear Medicine Clinicians petition USFDA twice
- Q&A Continuing
- Site Audit Pending



## Build Inventory

Materials Resource Planning underway with production targeting 200 Technegas generators roll-out per year

## Secure Customer Commitments

Securing commitments in line with Technegas<sup>®</sup> Generator lead time



## People

Hire Key USA Personnel to include Sales, Service & Training

## Service and Distribution

Secure service capabilities and stock 3PL Partners for USA launch



**Technegas**  
**PDUFA Date\* :  
27 March 2021**

\*PDUFA Date = The Date according to the Prescription Drug User Fee Act that the FDA will hand down their determination on an NDA

---

# EXPANDING INDICATIONS

TEC  NEGAS™



# BEYOND PE : Clinical Initiatives

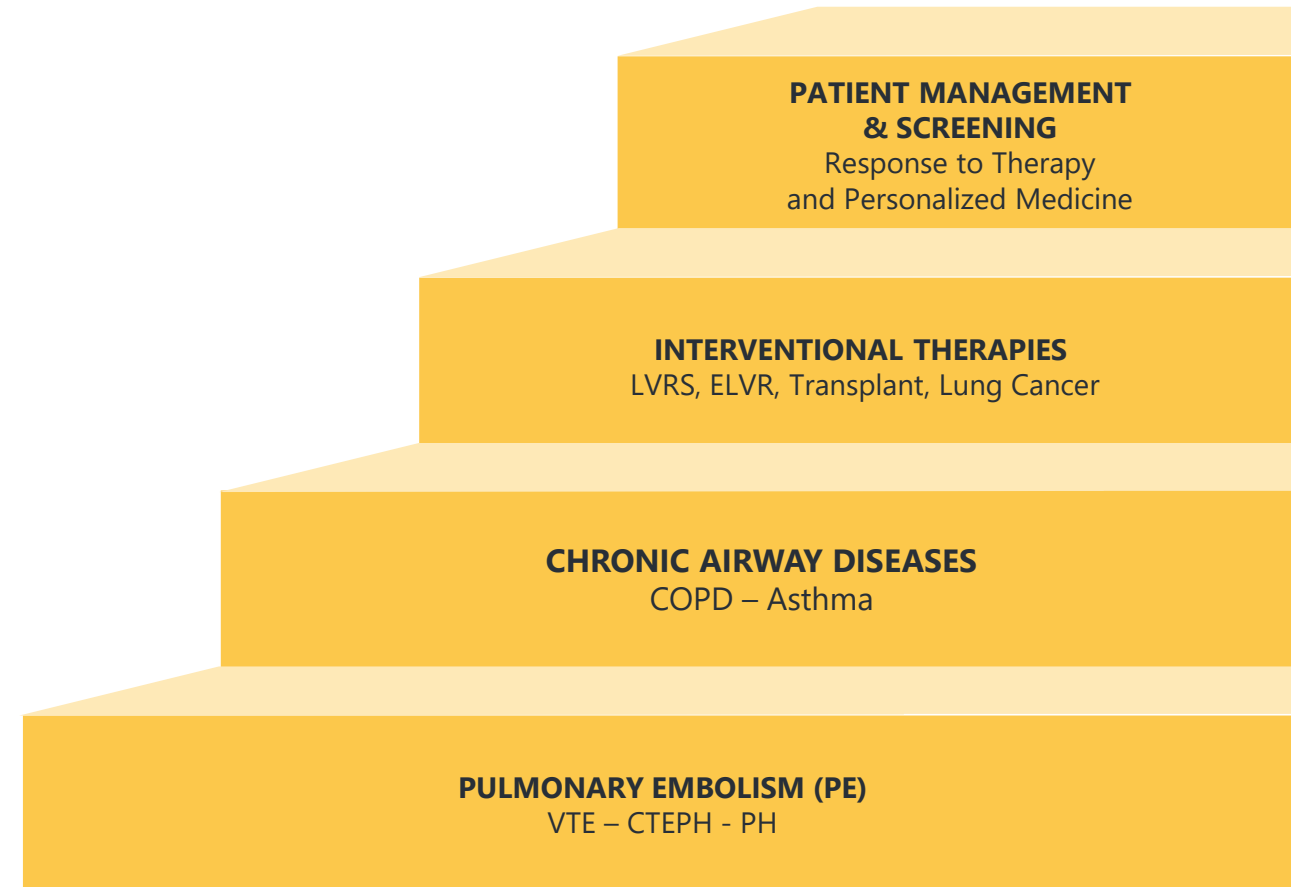
## Clinical Trials Sponsored by Cyclomedica

- **Hunter Medical Research Institute (Newcastle, AU):**  
Diagnosis and response to therapy in severe asthma and COPD<sup>1</sup>
- **Woolcock Institute (Sydney, AU):**  
Diagnosis and response therapy in mild to moderate COPD<sup>3</sup>
- **CHUM (Montreal, CA):**  
Early detection of COPD in asymptomatic smokers<sup>4</sup>
- **Dalhousie (Halifax, CA):** Post-lung transplant patients
- **McMaster University Firestone Institute (Hamilton, CA):**  
Prevalence and clinical relevance of ventilation heterogeneity and luminal cellular inflammation in lung cancer patients pre and post lung resection<sup>2</sup>
- **McMaster University Firestone Institute (Hamilton, CA):**  
COVID-19 Related Lung Ventilation and Perfusion Injury<sup>5</sup>

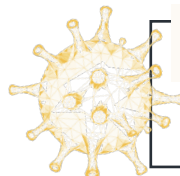
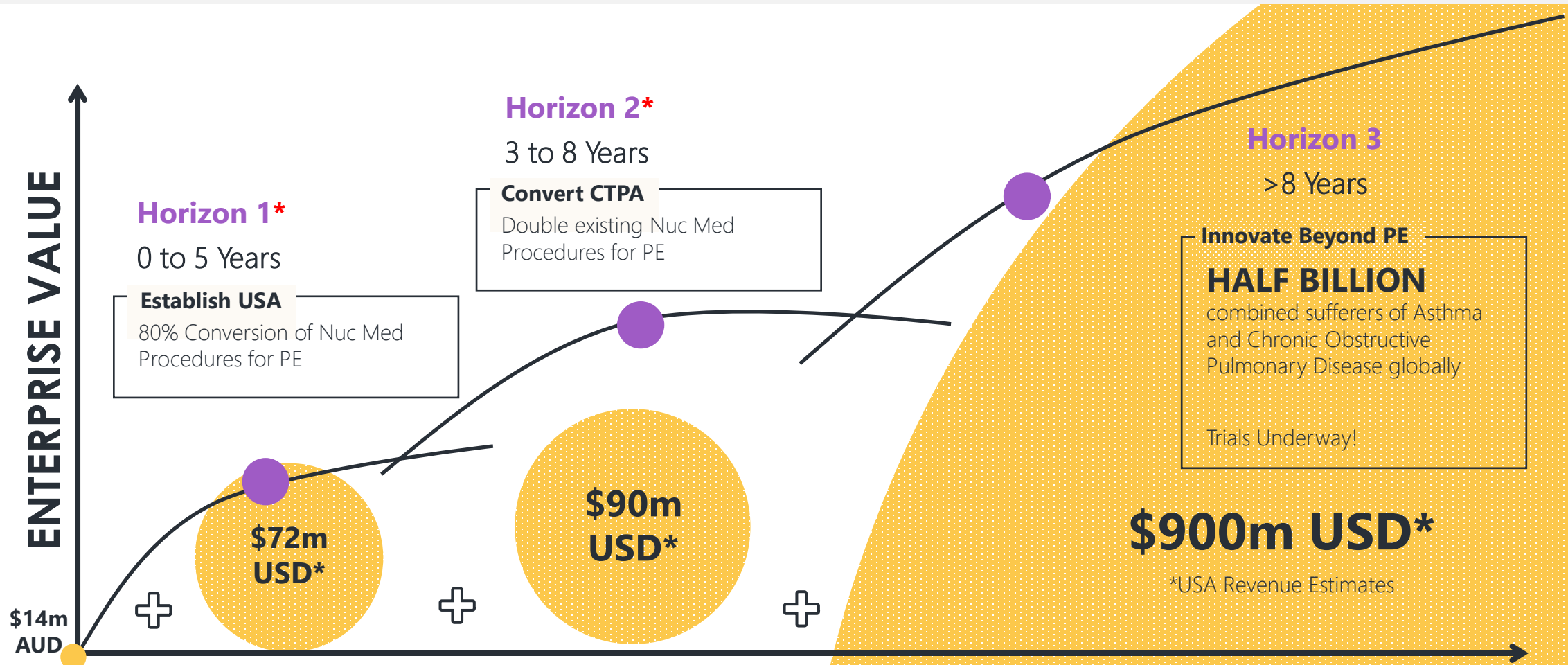
## Other Non-Sponsored Clinical Initiatives

- **Macquarie University (Sydney, AU):** ELVR with endobronchial valves in severe COPD patients
- **Macquarie University (Sydney, AU):** Bronchial Thermoplasty procedure in asthma patients

1. ACTRN12617001275358 - Can functional lung ventilation imaging identify treatable traits in obstructive airway disease?  
2. <https://clinicaltrials.gov/ct2/show/NCT04191174?term=technegas&draw=2&rank=3>  
3. [http://investor.cyclopharm.com/site/PDF/1561\\_0/BetterDefiningAirwaysDiseaseWithTechnegas](http://investor.cyclopharm.com/site/PDF/1561_0/BetterDefiningAirwaysDiseaseWithTechnegas)  
4. <https://ichgcp.net/clinical-trials-registry/NCT03728712>  
5. <https://clinicaltrials.gov/ct2/show/NCT04549636>



# THREE VALUE HORIZONS



**\*Timelines Under Review**  
COVID-19 Likely to be an accelerant to Horizons 1 & 2

# CYCLOPHARM INVESTMENT CASE

TEC  NEGAS™



## Profitable and Growing MedTech

Underlying business is cash positive and issuing dividends



## First in Class

Established Gold Standard  
Proprietary product sales to 60 countries with over 4.3 million studies to date  
Clinical Agent of Choice referenced by name in multiple clinical guidelines



## Recurring Revenue

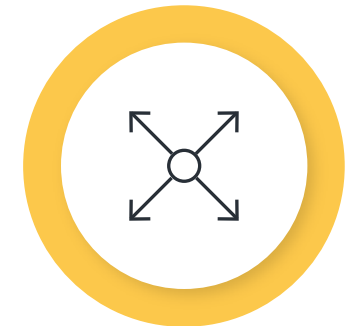
From single patient consumables  
Similar to an annuity model



## USFDA Approval

Set to quadruple the size of the existing PE business, based on significant existing demand with a COVID-19 as an accelerator.

Further leverage penetration into the CTPA market



## Optionality

Into indications beyond PE into chronic respiratory disease management could deliver exponential growth





---

**THANK YOU**

