







pharmaxis

# Therapeutic products for respiratory diseases

Annual General Meeting  
23 October 2008

# Summary.....

Objective	The development of products for respiratory and inflammatory diseases
Lead products	Aridol: management of asthma and COPD Bronchitol: therapeutic for cystic fibrosis and COPD
Discovery	PXS25 (IGFII antagonist). PXS4159 (VAP1 inhibitor)
Listings	ASX (Nov 2003): PXS; NASDAQ (Aug 2005): PXSL
Location	Sydney, NSW, Australia
Facility	GMP Manufacture of lead products
Employees	100
Cash (30/09/08)	\$106 million
Shares outstanding	195m (12.9m ADS)
Options outstanding	13.0m
Key patents	Aridol & Bronchitol granted in USA, Australia, Asia, Canada, Japan; pending in EU, Japan.
Analyst coverage	     

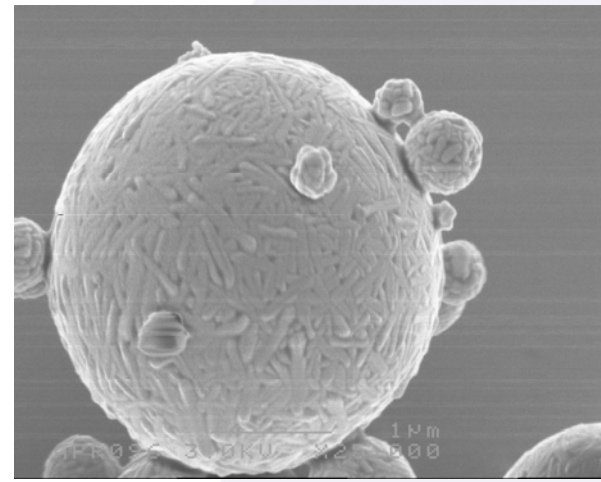
# Year in review through milestones passed.....



1. Phase 3 bronchiectasis trial positive Aug 2007
2. Placement and Share Purchase Plan raised \$62m Oct 2007
3. Korean distributor appointed for Aridol Oct 2007
4. Commenced construction of new manufacturing plant Dec 2007
5. Concluded preclinical safety for PXS25 Dec 2007
6. US office opened Dec 2007
7. First Asian Aridol approval - Korea Jan 2008
8. China accepts Bronchitol clinical trial application Mar 2008
9. Aridol for elite athletes accepted by Olympic Committee Mar 2008
10. CF trial in children returns positive results Apr 2008
11. Aridol approved in Germany May 2008
12. Agreement with FDA and EMEA on Phase 3 bronchiectasis trial Jun 2008
13. Phase 2 CF dose trial results positive Aug 2008
14. Phase 3 CF trial completes recruitment Aug 2008
15. 12 month Phase 3 trial finds Bronchitol safe in bronchiectasis Aug 2008
16. Second CF Phase 3 trial (under SPA) commences recruitment Sep 2008
17. Bronchiectasis marketing application filed with TGA Sep 2008
18. Aridol approved in Switzerland Oct 2008



# Bronchitol

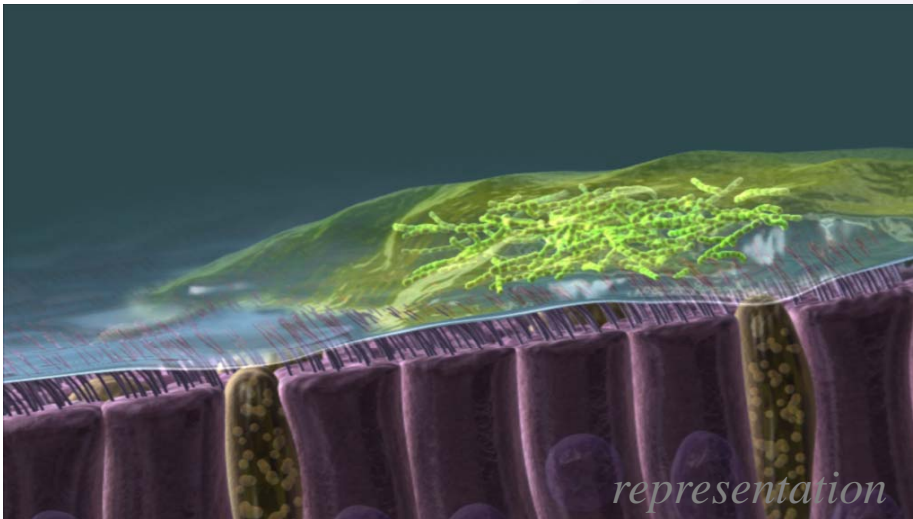


***Mucus clearance:***

***Cystic fibrosis  
Chronic Obstructive Pulmonary Disease  
Bronchiectasis***

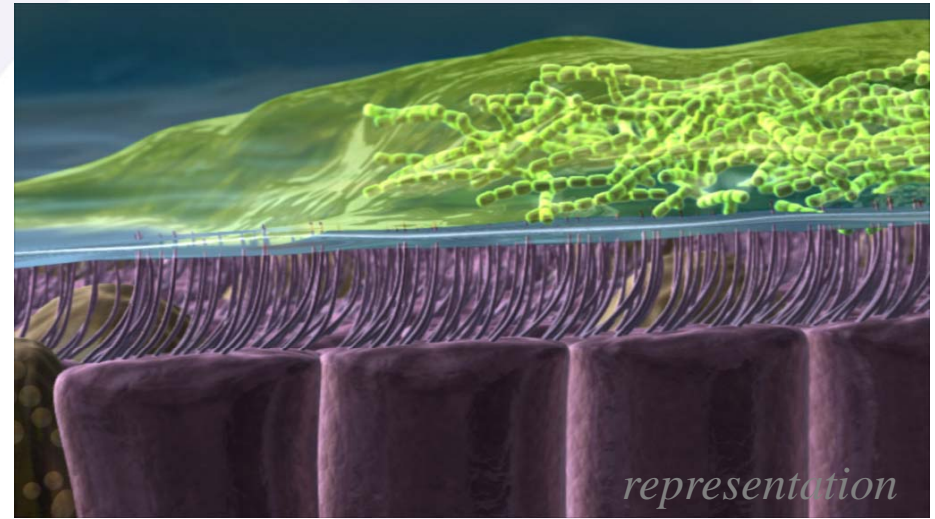
# Osmotic clearance of abnormal mucus.....

Before treatment



- Lung surface dehydrated
- Airway surface fluid layer impaired
- Lung defense and hygiene compromised

After Bronchitol administration



- Lung hydrated
- Airway surface liquid restored
- Normal lung clearance

# Bronchitol – cystic fibrosis



- **Background**

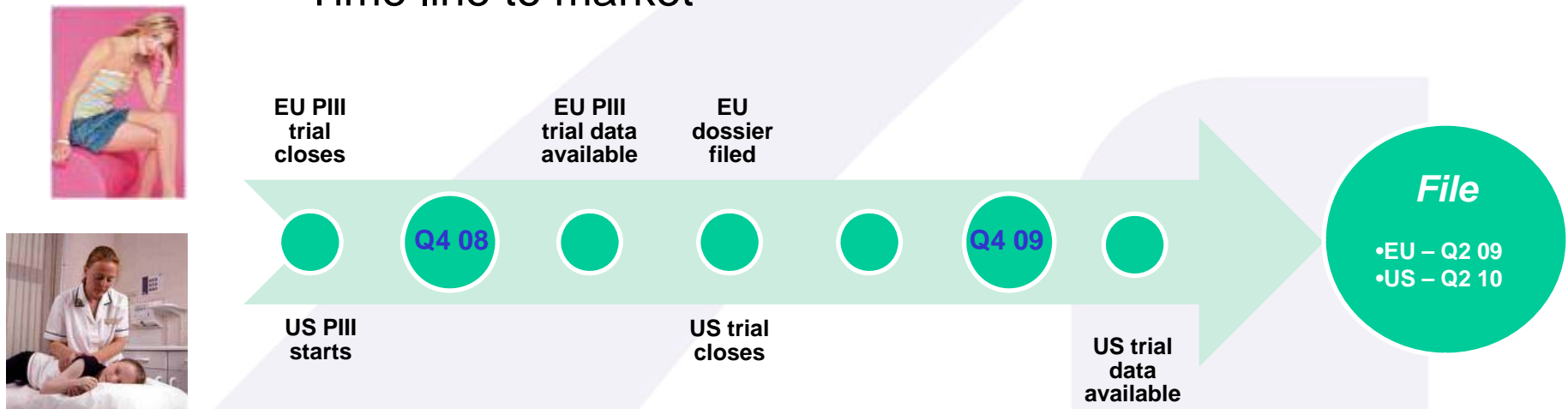
- Genetic disorder affecting 75,000 worldwide (30,000 in US)
- Poorly hydrated, tenacious, thick mucus
- Current life expectancy is 37 years (US)

- **Current treatments: rhDNase and tobramycin**

- Delivered by nebulizer (preparation, sterilization)
- rhDNase (pulmozyme): global sales US\$440mm (2007)
- Tobramycin: global sales US\$233mm (2007)

# Bronchitol for CF – near term revenue opportunity (I).....

- Time line to market –



- Regulatory matters addressed

- European agreement to file using Centralised Procedure
- Orphan drug status means one trial sufficient for approval (EU)
- Trial conducted under Protocol Assistance from EMEA
- US trial conducted under SPA
- Fast Track status allows filing of a US rolling NDA



## Bronchitol for CF – near term revenue opportunity (II).....



### Commercial readiness - pre marketing commenced

- Less than 500 CF centres world wide
- Top 5 countries in Europe can be covered by 10 staff
- Tight knit group (patients/carers/nurses/physicians)
- Reference product in Europe is rhDNase (pulmozyme)
  - ⇒ price, health economics
- 30,000 CF sufferers in Europe
  - Year 1 target uptake – 30%

## Bronchitol for CF – commercial strategy.....



- 2008/9
  - Hand over of relationships from Clinical team (US, UK, AUS)
  - Build relationships with US CF Foundation
    - Boost trial participation willingness (market PXS)
    - Build support for future FDA / pricing negotiations
  - Build relationships with other CF associations



- 2009/10
  - Intensive publication/awareness strategy
  - Sales teams recruited 6 months prior to EU/AUS launch
  - Appoint distributors for non core markets (outside EU top 5)



- 2010/11
  - Launch Year

# Bronchitol – cystic fibrosis registration (I).....



- **1<sup>st</sup> Pivotal Phase III trial**
  - Multicentre, double blind, comparator controlled
  - Enrollment complete and closed at 325 subjects
  - 6 month treatment, 400mg twice per day
  - Primary endpoint: lung function (FEV1)
  - Secondary endpoint: exacerbation frequency, antibiotic use
- **Top line efficacy data expected 1H 2009**
- **European marketing application via centralised procedure**
  - Filing and dossier review plan to be agreed with EMEA
- **Earliest approval 1H 2010**

# Bronchitol – cystic fibrosis registration (II).....

- **2<sup>nd</sup> Pivotal Phase III trial**



- Protocol review through Special Protocol Assessment (FDA)
- Double blind, comparator controlled
- 300 subject 6 years and older
- 400mg, twice per day for 6 months
- 1<sup>o</sup> endpoint - lung function by spirometry (FEV1)
- 2<sup>o</sup> endpoints – antibiotic use, exacerbations, lung function



- **Enrolment commenced**

**Sep 2008**

- **First data**

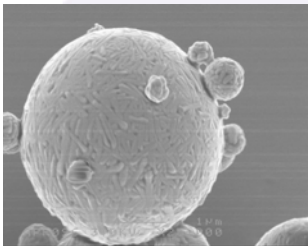
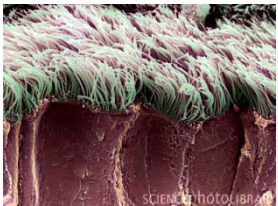
**2H 2009**

- **Orphan drug designation – U.S.**

- **Fast track designation – U.S.**



# Bronchitol - bronchiectasis



- Abnormal, irreversible dilation of the lower airways
- Daily mucus production, constant coughing, breathlessness, recurrent acute bronchitis with infective exacerbations : low quality of life
- In 30-50% of cases, the cause is unknown
- Normal lung clearance impaired
- Current treatments: bronchodilators, antibiotics
- No drugs proven effective to clear mucus

# Bronchitol – bronchiectasis registration (I)...



- First Phase III trial complete
  - Quality of life ↑: Sputum volume ↑: Antibiotic use ↓: Safe (12 months)



- Marketing Application filed in Australia Q3 2008
- Possible approval Q3 2009
- Available on Special Access Scheme



- One Phase III trial required for US and Europe
  - Protocol agreed with Europe regulatory agency
  - Protocol agreement with US FDA via SPA
  - Cost of trial - \$10 million



# Bronchitol – bronchiectasis registration (II)....



- **2<sup>nd</sup> Pivotal Phase III trial**

- 350 patient, placebo controlled, double blind, randomised, 52 week treatment
- 400mg twice a day

- **Primary endpoint**

- Reduction in number of exacerbations
- Quality of life



- **Secondary endpoints**

- Exercise, mucus clearance, antibiotic use

- **Status**

- Special Protocol Assessment concluded with FDA
- Orphan Drug designation
- Target commencement
- Data



USA  
Q4 2008  
2010

# Number of bronchiectasis patients seeking treatment

	EU	Australia	USA	Asia	Total
<b>% of pt pool seen by respiratory specialists</b>	Average 14%	9%	N/A	Average 5%	
<b>Trend</b>	Stable or increasing	Stable	Increasing	Stable or decreasing	
<b>Mod/Severe</b>	55%	70%	55%	75%	
<b>Patients seeking treatment</b>	210,000	18,000	110,000	250,000 ++	600,000+

Prevalence: Much higher. Bronchiectasis is often missed but has been measured as >10% of COPD patients in a US patient cohort ~ 800k

Note: US Data comes from Datamonitor research, other data from Frost & Sullivan research



# Bronchitol – acute clearance of lung secretions



## ICU, hospitalized patients and ventilated patients

- Currently supplied on request to patients with life threatening condition
- Feedback encouraging for proof of concept study
- Clinical conditions include: asthma, COPD, cystic fibrosis, secondary respiratory disease, neurogenic disorder

## Objective

- acute care pilot study Q2 2009?
- study in ventilated patients Q2 2009?

## Market opportunity

- 1 million U.S. emergency room visits every year (COPD alone)
- 60,000+ ICU beds worldwide 80 - 90% occupancy rates
- 75% patients ventilated / 75% have serious mucus problem

# Aridol™



***A rapid and simple test for airways inflammation that facilitates diagnosis and management of asthma.***



# Clinical applications for Aridol

An easy to use, 'point of care' test with a high degree of sensitivity (85%) and specificity (95%) for airway inflammation

- 1. Asthma diagnosis and assessment of disease severity<sup>1</sup>**
- 2. Monitor patient's disease / managing effectiveness of treatment<sup>2</sup>**
- 3. Identification of COPD patients who will respond to steroids<sup>3</sup>**

*NOTES: 1 = Evidence available from phase III study  
2 = Proof of concept only; definitive studies ongoing  
3 = Evidence available from phase II study*



# International Regulatory Status - Aridol



- **Australia**

- Launched

June 2006

- **Europe**

- Approved European Union (MRP)
  - Regional authorizations complete
- Regional marketing partners appointed
  - Europe wide launch

May 2007

Oct 2008



- **South East Asia**

- Approved for marketing – Korea
  - Pricing approval expected

January 2008

early 2009






- **USA**

- Phase III trials completed
- New Drug Application being assembled



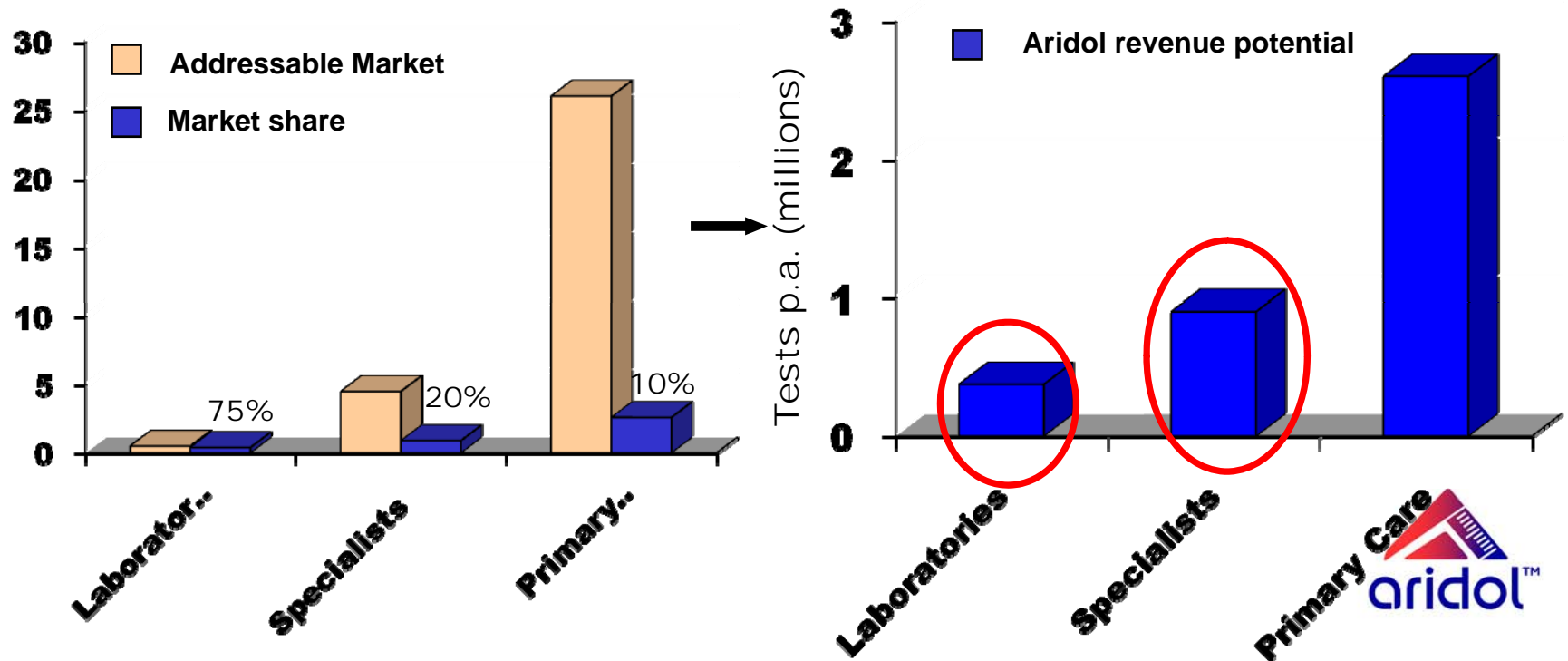
# Aridol: current distribution agreements...

	Country	Partner	Regulatory	Status	
	• Sweden	Nigaard	approved	launched	
	• Finland	Nigaard	approved	launched	
	• Germany	to be advised	approved	pricing	
	• Ireland	Pharmaxis	approved	launched	
	• Norway	Nigaard	approved	launched	
	• Portugal	Pulmocor	approved	launched	
		• UK	Pharmaxis	approved	launched
		• France		approved	planning
		• Greece	Allertec	approved	launched
		• Italy	Italchimici	MRP	
	• Holland	Romedic	approved	launched	
	• Spain	Aldo-Union	approved	launched	
	• Denmark	Nigaard	approved	launched	
	• Belgium		MRP		
	• Switzerland	Trimedal	approvable		
	• Korea	BLH	approved	pricing	

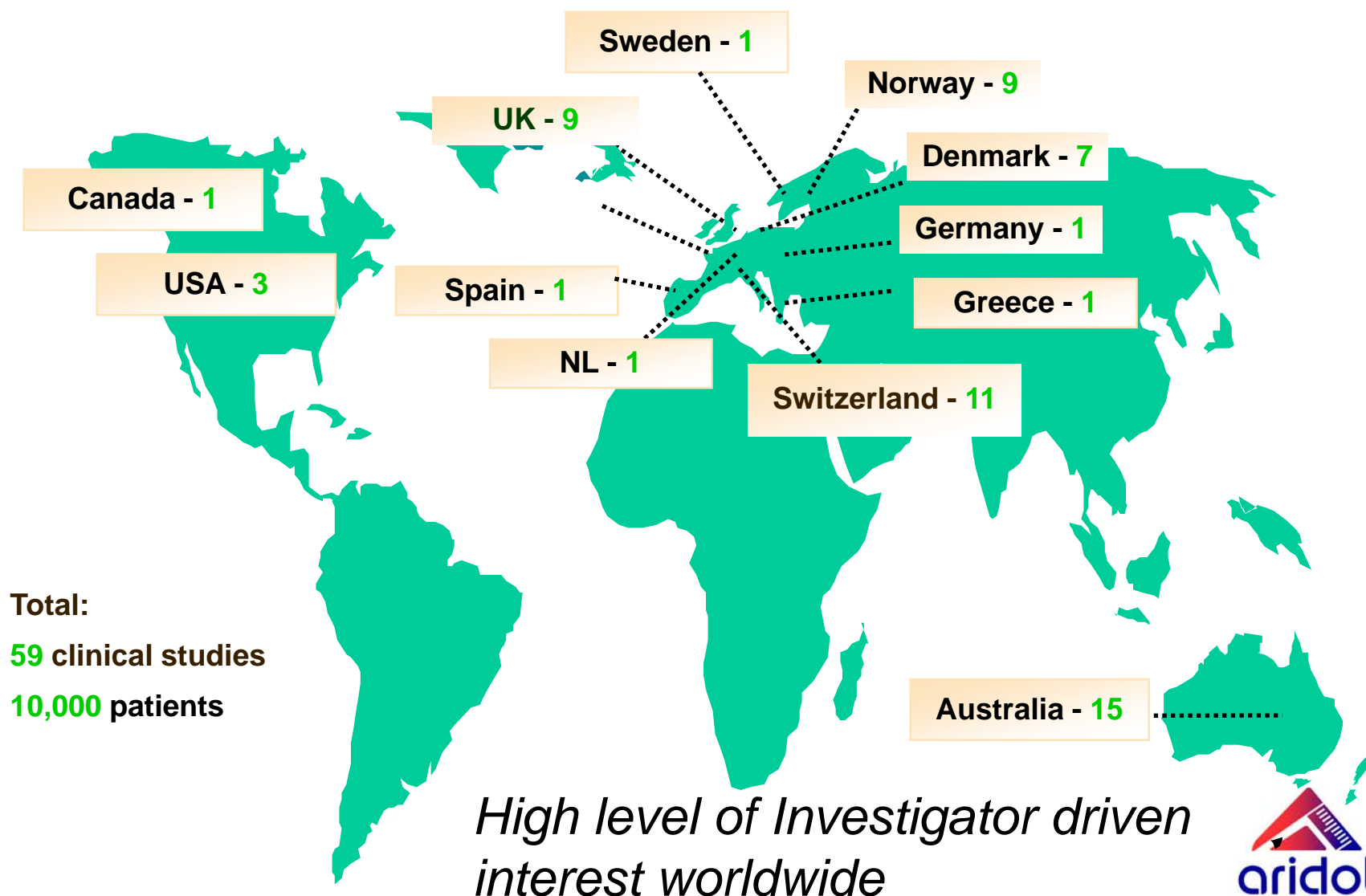
# Growth Opportunities ahead: Aridol

	Timing
Portugal, Finland, Norway, Spain, <b>Germany</b>	Q3 2008
France, Italy, <b>Korea</b>	Q1 2009
<b>USA</b>	Q3 2009
New data – Asthma management	Q1 – Q4 2009

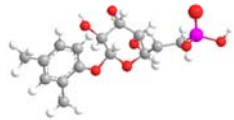
Patient Numbers in Millions



# Worldwide development of Aridol.....



## R&D - Status (PXS-25)



- ❑ Small molecule from Pharmaxis
- ❑ M6P receptor antagonist inhibiting TGF $\beta$ <sub>1</sub> activation
  - Preclinical toxicology complete
  - Phase 1 trial to commence end 2008
- ❑ Development plan and partnering strategy
  - develop PXS-25 for pulmonary indication
  - out-license PXS-25 for non-core indications / territories



# R&D - Status (PXS-4159)



- ❑ **Small molecule from Pharmaxis**
- ❑ **Selective and potent inhibitor of SSAO/VAP-1**
  - potential indications include, asthma, COPD, ocular inflammation



- ❑ **Highly orally bioavailable**
- ❑ **Preclinical development commenced**
- ❑ **Phase 1 trial expected mid-2009**



- ❑ **Development plan and partnering strategy**
  - develop PXS4159 for pulmonary indications
  - out-license PXS4159 for non-core indications / territories

# Near term catalysts ahead.....

Milestone	4Q-08	1Q-09	2Q-09	3Q-09
<b>Bronchitol – cystic fibrosis</b> 1 <sup>st</sup> P III trial complete 1 <sup>st</sup> PIII trial data Close 2 <sup>nd</sup> P III trial enrollment File MAA in EU (central)				
<b>Bronchitol – bronchiectasis</b> MAA decision (Aus) Start 2nd P III trial enrollment Complete 2 <sup>nd</sup> PIII enrollment				
<b>Aridol</b> File NDA (US)				
<b>Facilities</b> New facility complete (building)				
<b>PXS25</b> Commence Phase 1 program				

# Pharmaxis target profile – June 2009



- **1<sup>st</sup> Phase 3 Bronchitol cystic fibrosis study completed**
  - Marketing application submitted in Europe through centralised procedure
- **2<sup>nd</sup> Phase 3 Bronchitol CF trial fully enrolled**
  - Pre-marketing commenced in US
- **Clinical data available for Bronchitol ventilator indication**
- **Bronchitol approval for bronchiectasis pending in Australia**
- **PXS25 completed Phase I trial demonstrating safety and PK profile**
  - Moving into Phase II for IPF
- **PXS4159 preclinical safety completed**
  - Moving into Phase I clinical trial
- **Aridol approval pending in the US**
  - Marketing capability assembled and pre launch activities active
- **Aridol launched throughout Europe**
- **New facility operational**
- **Bronchitol 2<sup>nd</sup> Phase 3 bronchiectasis trial in recruitment**

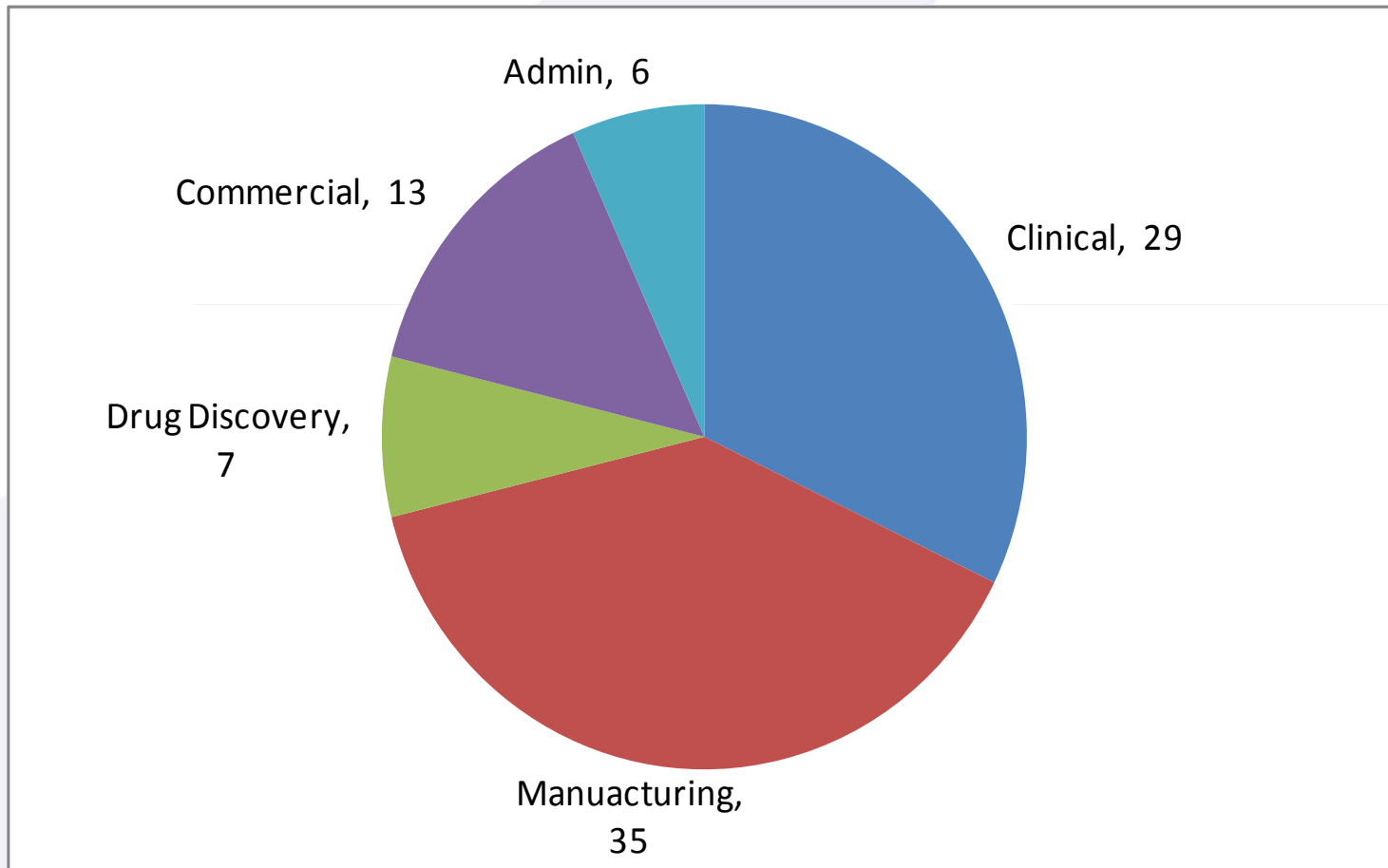
# Financial Statements

	<u>Year ended 30 June</u>			
	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
<b>Income Statements</b>	<u>A\$'000</u>	<u>A\$'000</u>	<u>A\$'000</u>	<u>A\$'000</u>
Revenue from sale of goods	-	8	205	527
Cost of sales	-	(2)	(49)	(129)
Gross profit	-	6	156	398
Other income				
Interest	1,702	4,282	5,278	7,402
Other income	1,219	1,299	2,152	1,576
Expenses				
Research & development	(9,269)	(16,978)	(23,840)	(19,996)
Commercial	(963)	(1,946)	(3,240)	(4,557)
Administration	(3,134)	(4,391)	(4,666)	(5,231)
Total expenses	(13,366)	(23,315)	(31,746)	(29,784)
Net loss before tax	(10,445)	(17,728)	(24,160)	(20,408)
Income tax expense	-	(5)	(19)	(32)
Net loss after tax	(10,445)	(17,733)	(24,179)	(20,440)
Earnings (loss) per share - \$	(0.084)	(0.111)	(0.136)	0.108
Depreciation & amortisation	646	947	939	1,024
Fair value of employe options issued	260	1,488	1,488	3,434

# Financial Statements

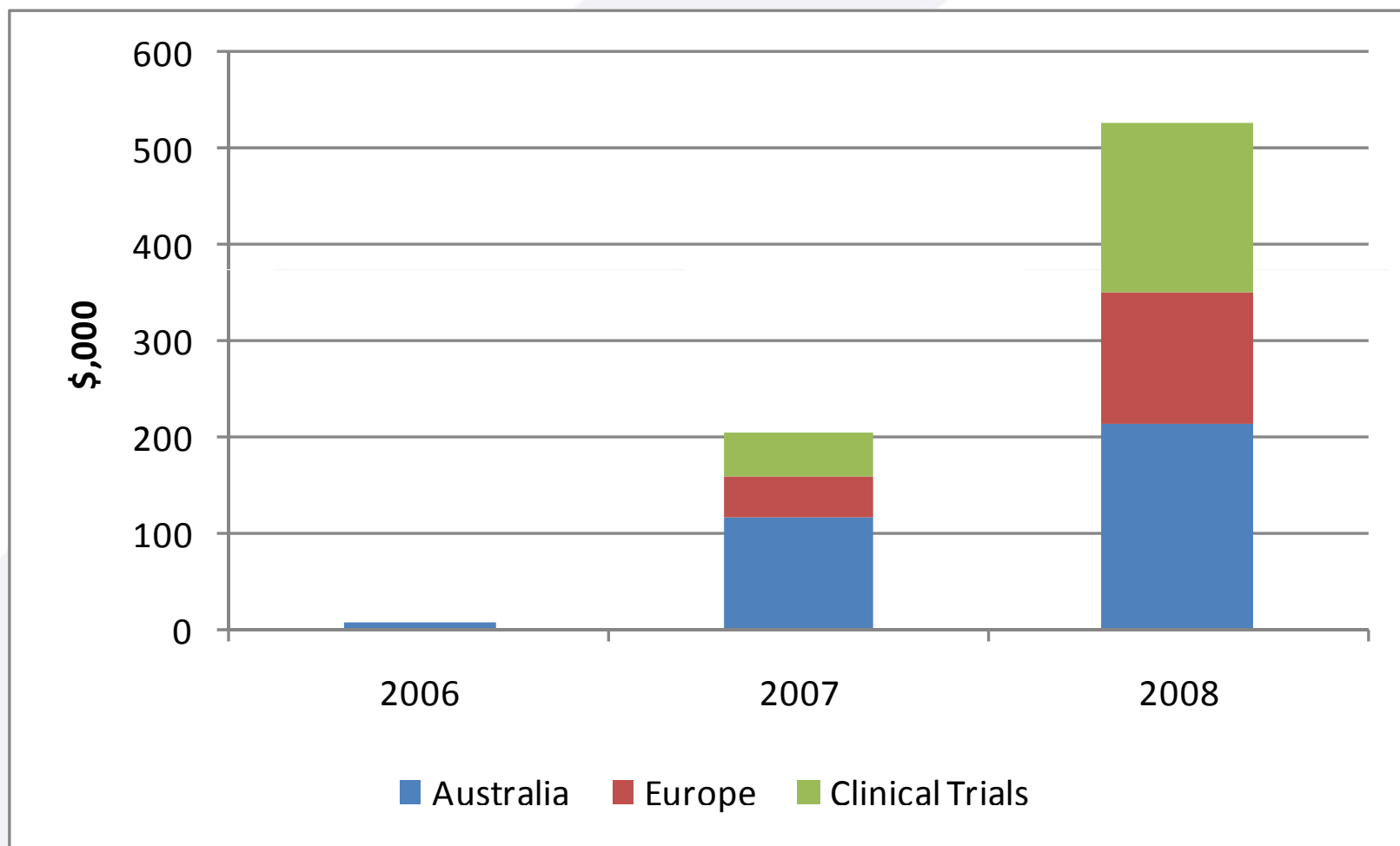
	<u>As at</u>			
	<u>30-Jun-05</u>	<u>30-Jun-06</u>	<u>30-Jun-07</u>	<u>30-Jun-08</u>
<b>Balance Sheets</b>	<b><u>A\$'000</u></b>	<b><u>A\$'000</u></b>	<b><u>A\$'000</u></b>	<b><u>A\$'000</u></b>
Cash and cash equivalents	33,390	97,840	76,182	111,842
Plant & equipment	2,477	3,205	3,521	3,668
Total assets	37,937	104,267	82,648	125,049
Total liabilities	(2,470)	(5,379)	(6,089)	(5,928)
Contributed equity	54,716	134,745	135,108	194,680
Total shareholders' equity	35,467	98,888	76,559	119,121
<b>Share Data</b>	<b><u>'000</u></b>	<b><u>'000</u></b>	<b><u>'000</u></b>	<b><u>'000</u></b>
Ordinary shares on issue	134,770	176,904	177,949	194,515
Options on issue	10,914	9,692	9,836	11,536

# Employee Headcount at June 2008



Australia	UK	USA	China	Total
76	9	4	1	90

# Sales



# New Facility

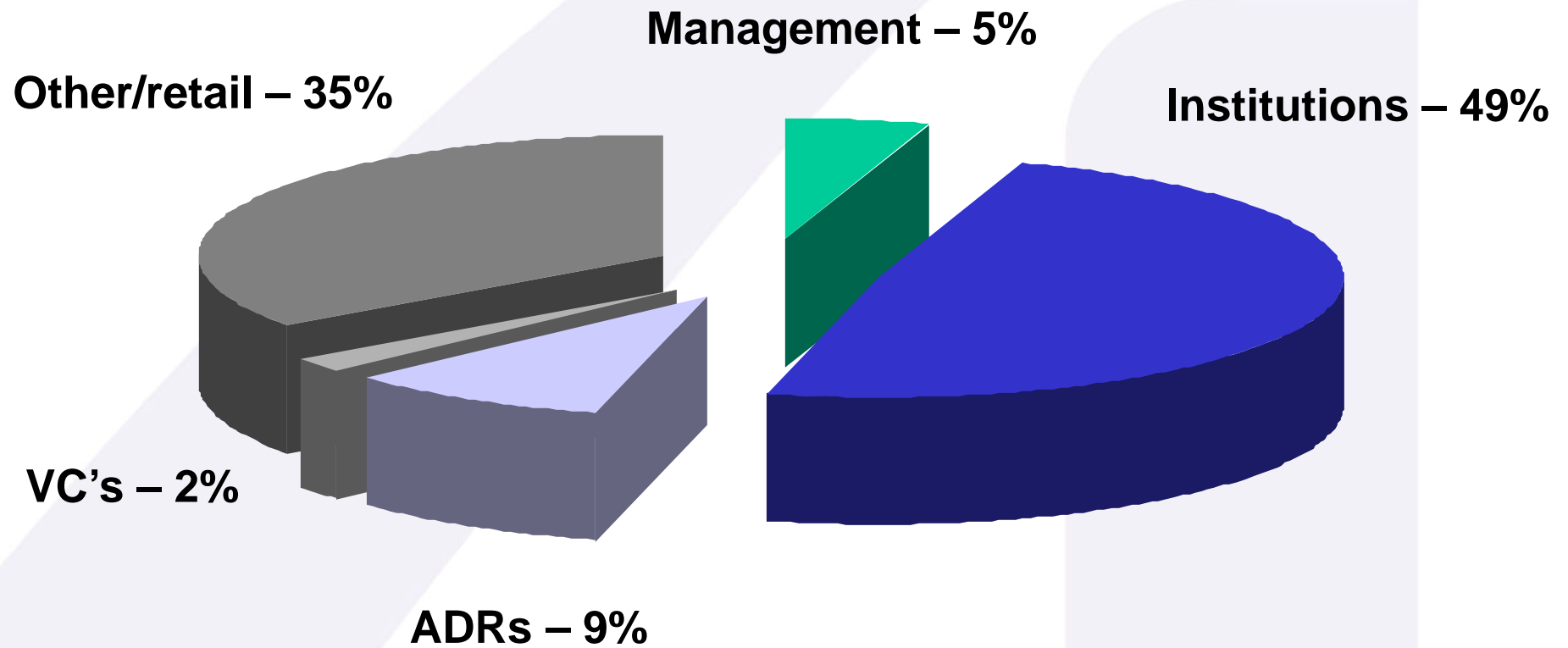


- **Key Dates**
  - Construction commenced Nov 2007
  - Base building complete Dec 2008
  - Fit-out complete April 2009
  - Manufacturing plant fully validated Q4 2009
- Developer/Landlord: GE Real Estate Aust
- Lease term: 15 years + 2 x 5 year options
- Pharmaxis cost for fit-out, manufacturing capacity: \$20m
- Initial Capacity: 72,000 Bronchitol doses pa



# Share Capital

(including options)



30 September 2008: 194.5m shares; 12.9m options