Therapeutic products for respiratory diseases

pharmaxis

Annual General Meeting
23 October 2008

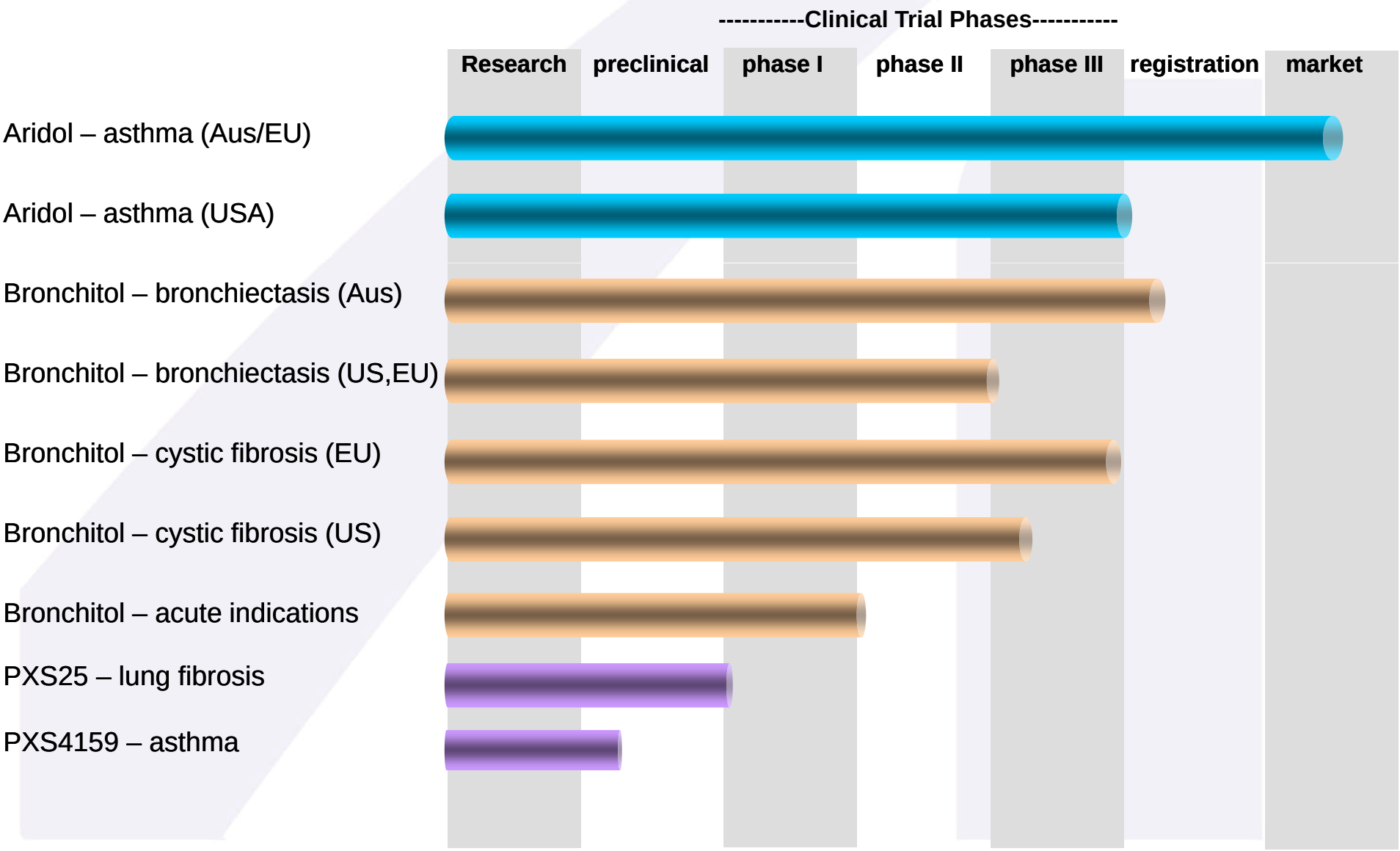
Summary……

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 Options outstanding	195m (12.9m ADS) 13.0m
Key patents	Aridol & Bronchitol granted in USA, Australia, Asia, Canada, Japan; pending in EU, Japan.
Analyst coverage	JMP Securities, Wilson HTM, Credit Suisse, ABN·AMRO Morgans, BBY, Lodge

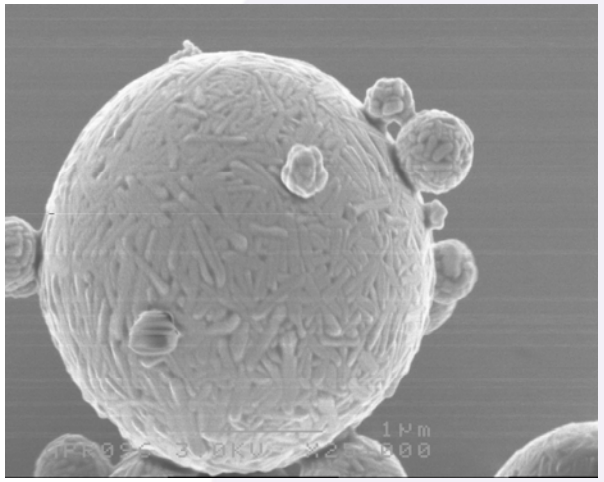
Year in review through milestones passed…..

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

Development Pipeline



Bronchitol

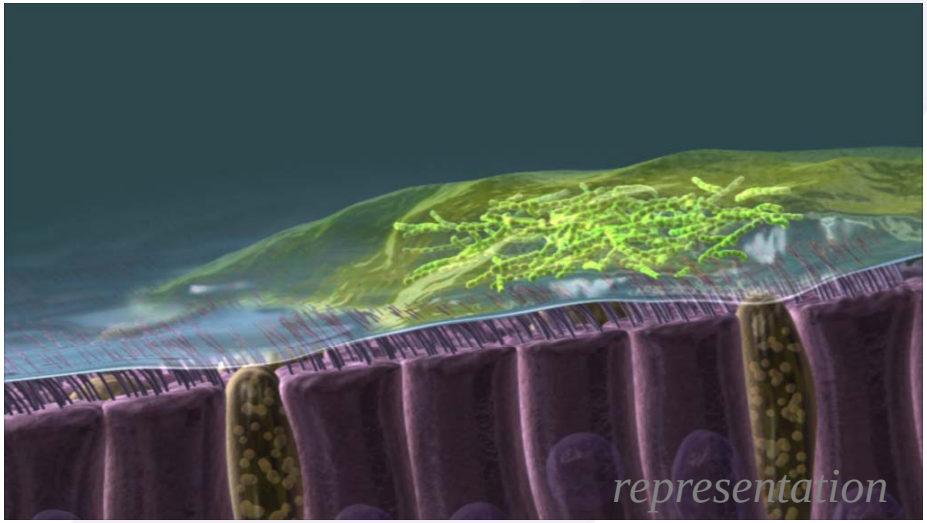


Mucus clearance:

Cystic fibrosis
Chronic Obstructive Pulmonary Disease
Bronchiectasis

Osmotic clearance of abnormal mucus……

Before treatment

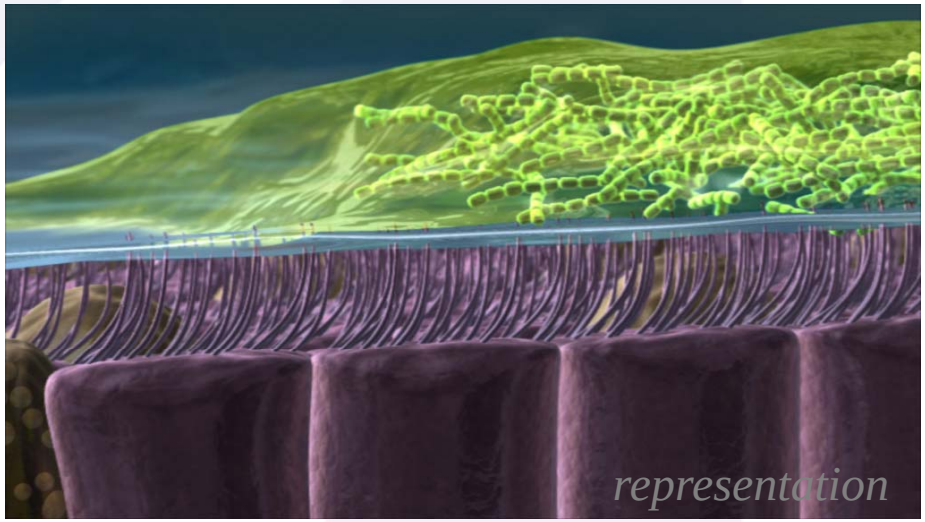


Lung surface dehydrated

Airway surface fluid layer impaired

Lung defense and hygiene compromised

After Bronchitol administration



Lung hydrated

Airway surface liquid restored

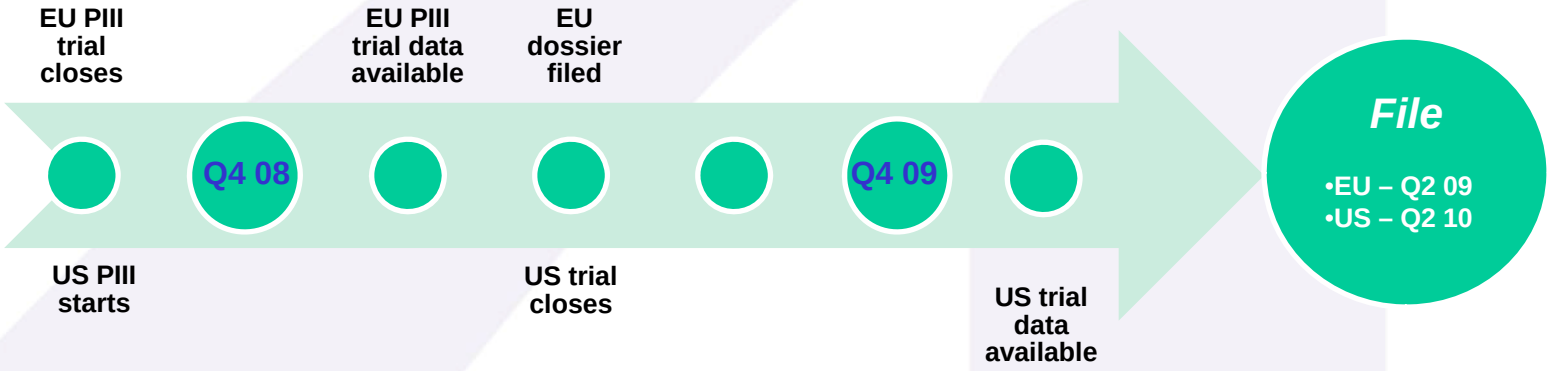
Normal lung clearance

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

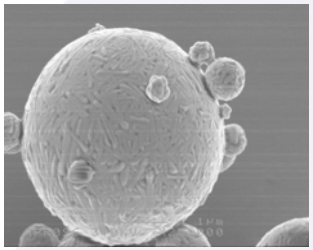
Bronchitol – cystic fibrosis registration (I).....

- **1st 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).....

- **2nd 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
  - 1º endpoint - lung function by spirometry (FEV1)
  - 2º 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

1: Clin Pulm Med 2005;12:205

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)….

- **2nd 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 — USA
  - Target commencement — Q4 2008
  - Data — 2010

Number of bronchiectasis patients seeking treatment

	EU	Australia	USA	Asia	Total
% of pt pool seen by respiratory specialists	Average 14%	9%	N/A	Average 5%	
Trend	Stable or increasing	Stable	Increasing	Stable or decreasing	
Mod/Severe	55%	70%	55%	75%	
Patients seeking treatment	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.

aridol™

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[1]**

2. **Monitor patient's disease / managing effectiveness of treatment[2]**

3. **Identification of COPD patients who will respond to steroids[3]**

NOTES: *1 = Evidence available from phase III study*

2 = Proof of concept only; definitive studies ongoing

3 = Evidence available from phase II study

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International Regulatory Status - Aridol

- **Australia**
  - Launched — June 2006
- **Europe**
  - Approved European Union (MRP) — May 2007
    - Regional authorizations complete
  - Regional marketing partners appointed
    - Europe wide launch — Oct 2008

- **South East Asia**
  - Approved for marketing – Korea — January 2008
    - Pricing approval expected — early 2009

- **USA**
  - Phase III trials completed
  - New Drug Application being assembled

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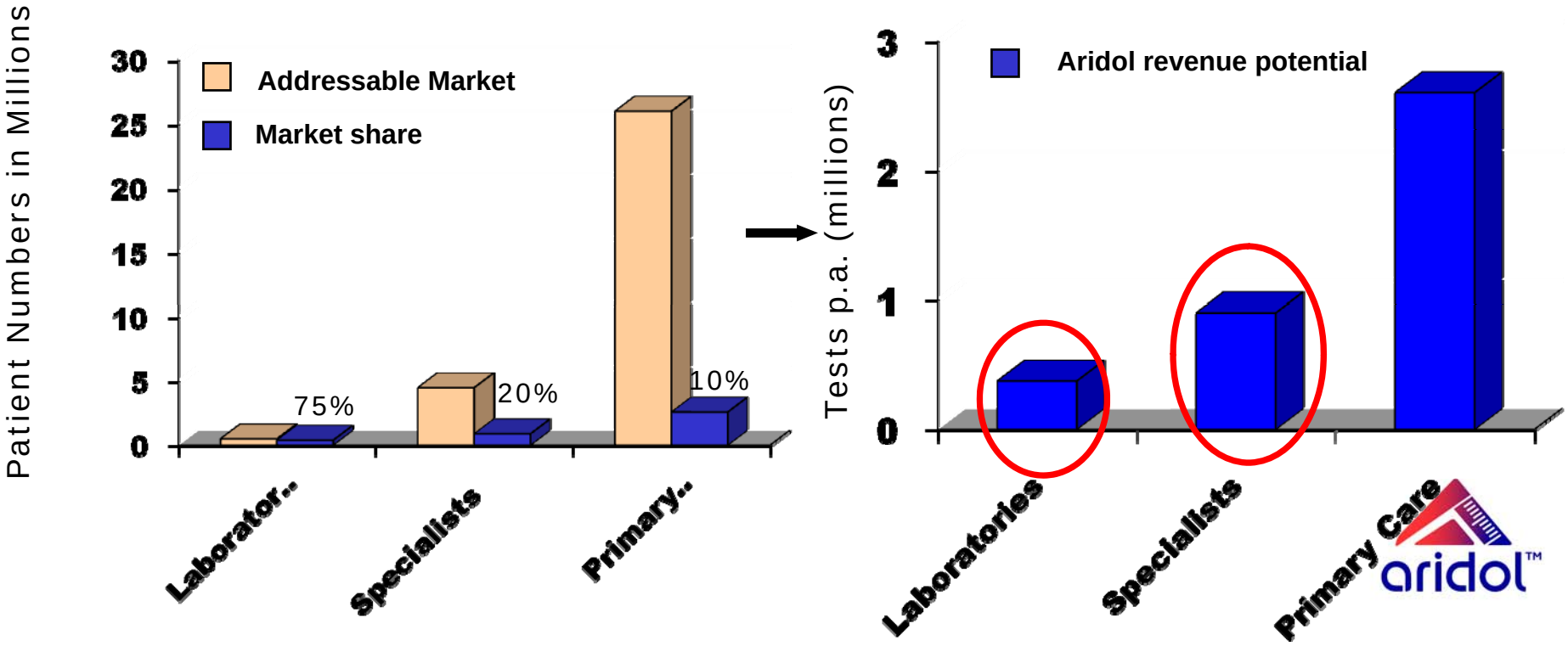
Aridol: current distribution agreements…

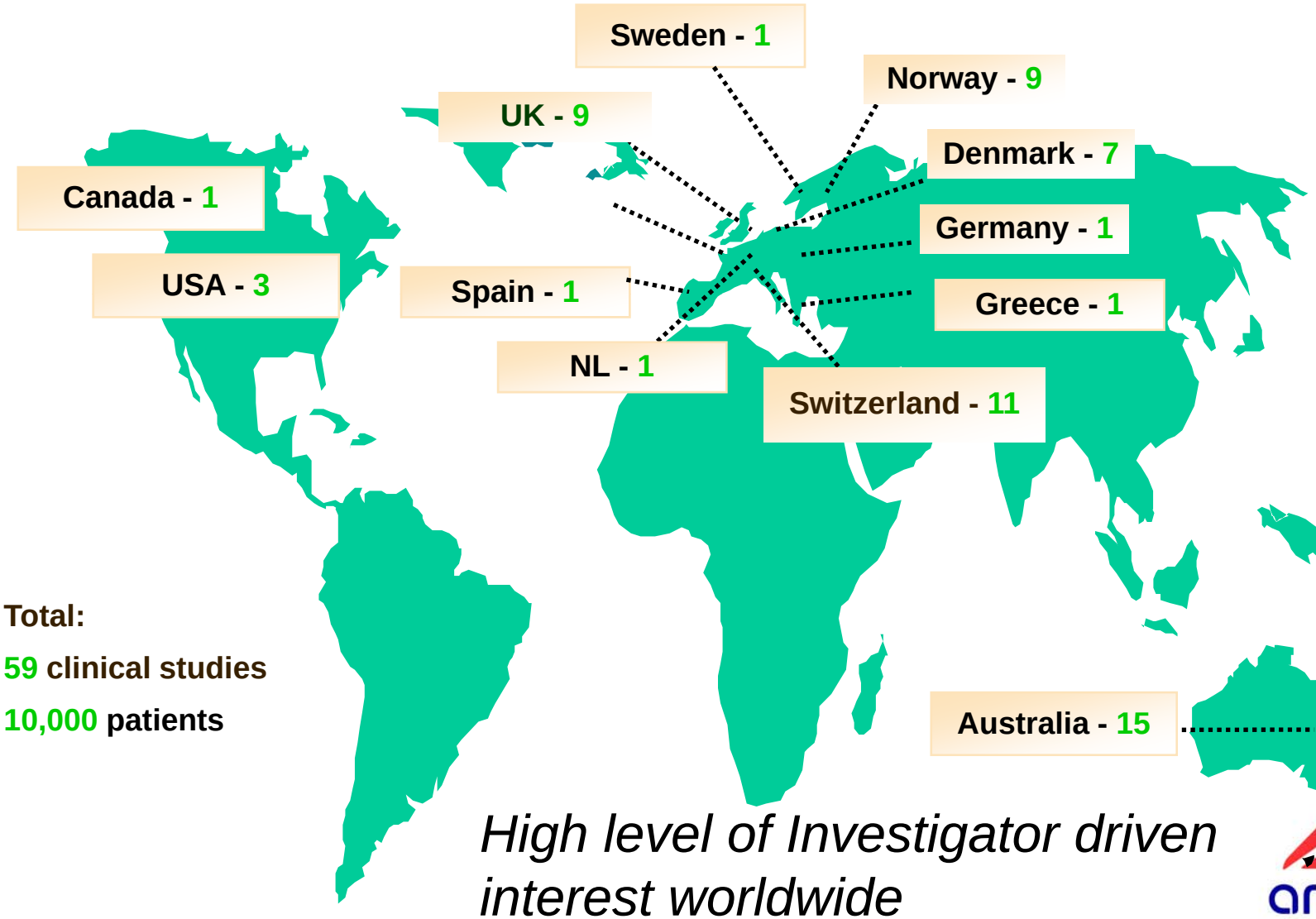
Country	Partner	Regulatory	Status
• Sweden	Nigaard	approved	launched
• Finland	Nigaard	approved	launched
• Germany	to be advised	approved	pricing
• Ireland	Pharmaxis	approved	launched
• Norway	Nigaard	approved	launched
• Portugal	Pulmocor	approved	launched
• UK	Pharmaxis	approved	launched
• France		approved	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, Germany	Q3 2008
France, Italy, Korea	Q1 2009
USA	Q3 2009
New data – Asthma management	Q1 – Q4 2009



Worldwide development of Aridol……



Total:

59 clinical studies

10,000 patients

High level of Investigator driven interest worldwide

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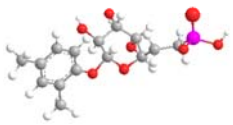
R&D - Status (PXS-25)



- Small molecule from Pharmaxis
- M6P receptor antagonist inhibiting TGFβ_1 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
Bronchitol – cystic fibrosis				
1st P III trial complete				
1st PIII trial data				
Close 2nd P III trial enrollment				
File MAA in EU (central)				
Bronchitol – bronchiectasis				
MAA decision (Aus)				
Start 2nd P III trial enrollment				
Complete 2nd PIII enrollment				
Aridol				
File NDA (US)				
Facilities				
New facility complete (building)				
PXS25				
Commence Phase 1 program				

Pharmaxis target profile – June 2009

- **1st Phase 3 Bronchitol cystic fibrosis study completed**
  - Marketing application submitted in Europe through centralised procedure
- **2nd 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 2nd Phase 3 bronchiectasis trial in recruitment**

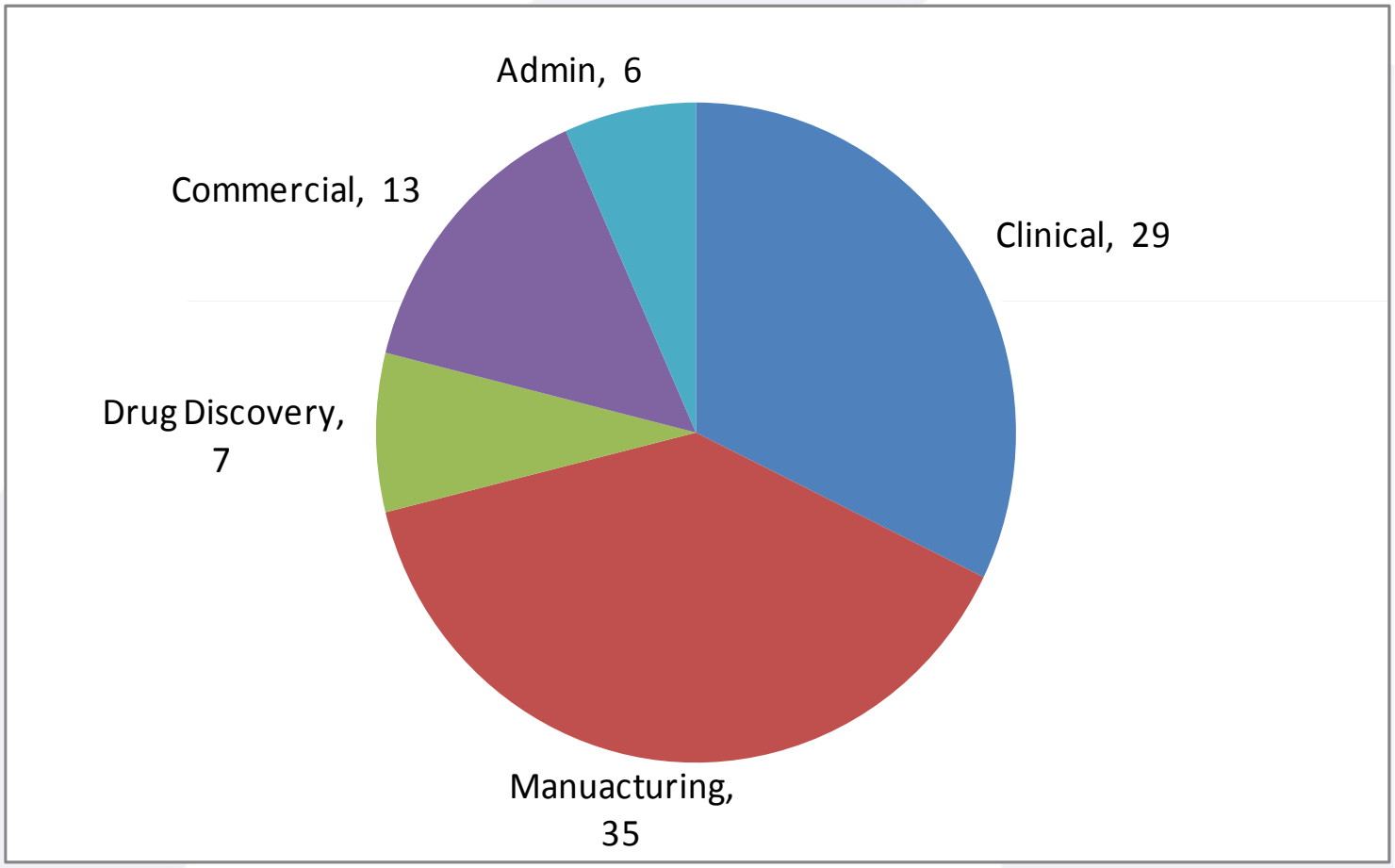
Financial Statements

Income Statements	Year ended 30 June 2005 A$'000	2006 A$'000	2007 A$'000	2008 A$'000
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

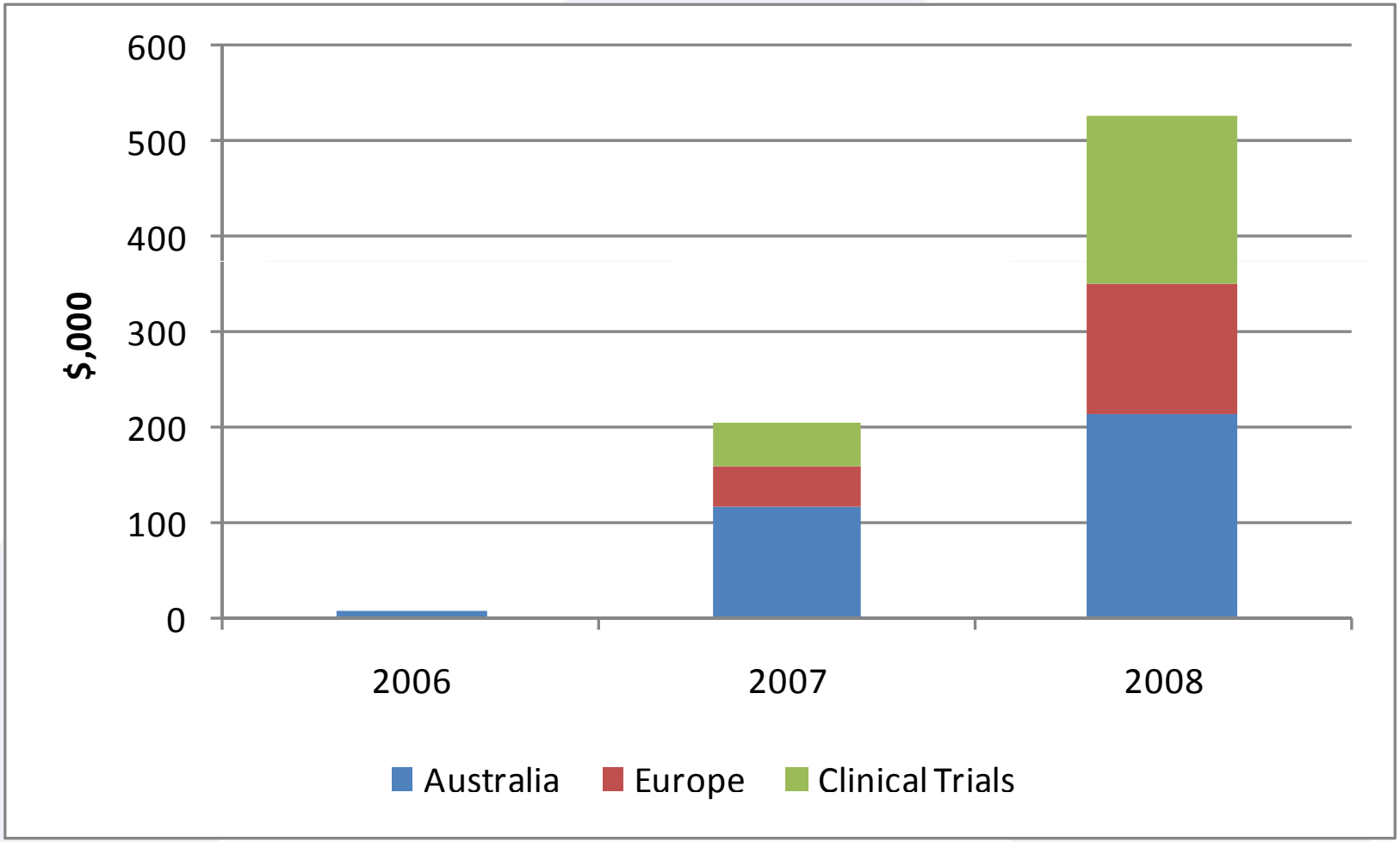
	As at			
	30-Jun-05	30-Jun-06	30-Jun-07	30-Jun-08
Balance Sheets	A$'000	A$'000	A$'000	A$'000
Cash and cash equivalents	33,390	97,840	76,182	111,842
Plant & equipment	2,477	3,205	3,521	3,668
Total assets	37,937	104,267	82,648	125,049
Total liabilities	(2,470)	(5,379)	(6,089)	(5,928)
Contributed equity	54,716	134,745	135,108	194,680
Total shareholders' equity	35,467	98,888	76,559	119,121
Share Data	'000	'000	'000	'000
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

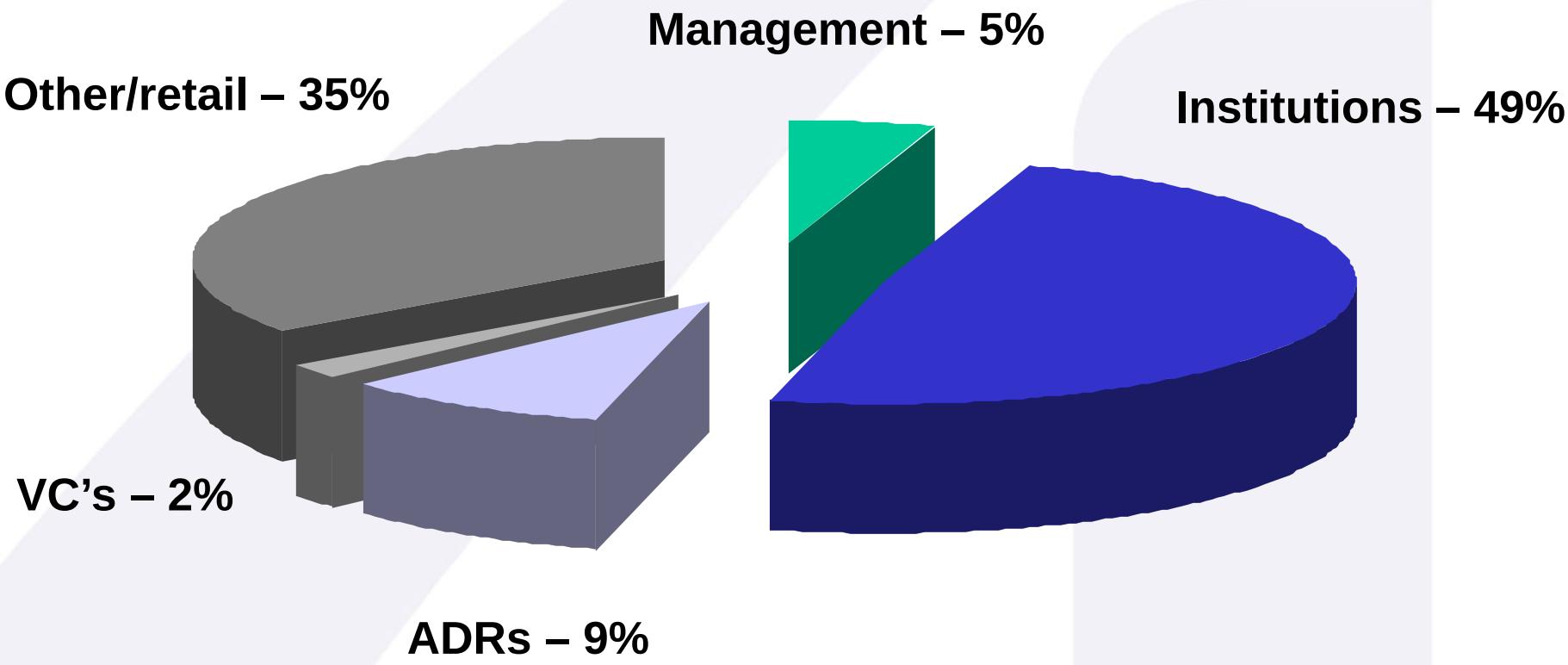
Sales


600
500
400
300
200
100
0
$,000
2006
2007
2008
Australia
Europe
Clinical Trials

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