

HeartWare Limited (ASX:HTW)



» **Doug Godshall**
CEO

» *November 2007*



Overview

- HeartWare is commercialising the world's smallest heart pumps for the treatment of advanced heart failure
- Heart failure is a leading cause of death in the developed world and represents a significant emerging medical device market
- The HeartWare® LVAD System is demonstrating promising clinical results
 - » *Completion of patient enrolment in international (OUS) clinical trial*
 - » *22 implants; >4,000 implant days*
- CE mark and first sales anticipated early 2008
- US clinical trials to commence late 2007 / early 2008
- Promising results of next generation products
 - » *MVAD™ in acute animal studies, IV VAD at design stage, TETS prototype*

The HeartWare® LVAD System - Product Animation



Transforming quality of life – HeartWare’s first patient

Before receiving his HVAD™ implant:

- » *Couldn't sleep lying down*
- » *Couldn't digest food*
- » *Constantly cold*
- » *Could barely walk up stairs*
- » *Took several minutes to tie his shoes*
- » *Was **“waiting to die...”***

6 Months Later:



9 Months Later:



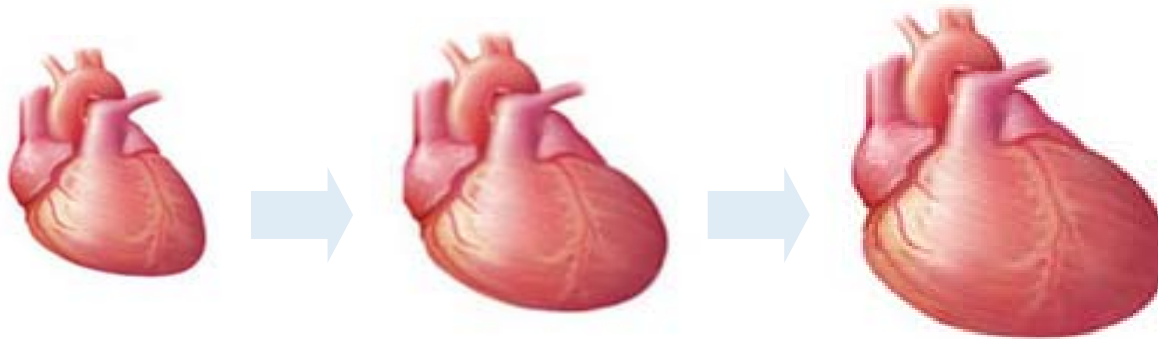
12 Months Later:



HeartWare's first patient, 6, 9 and 12 months following surgery at Vienna General Hospital in March 2006

Heart Failure is a dramatic issue for society

- A degenerative and terminal disease
- Affects over 10 million people globally (5 million in the US)
 - » *1 million new cases diagnosed every year*
 - » *300,000 deaths per year in the US*
- At least 1 million patients in NYHA Class IV, the end-stage of the disease
- In the US, heart failure represents Medicare's greatest area of spending
 - » *Estimated cost of \$30B in 2006*

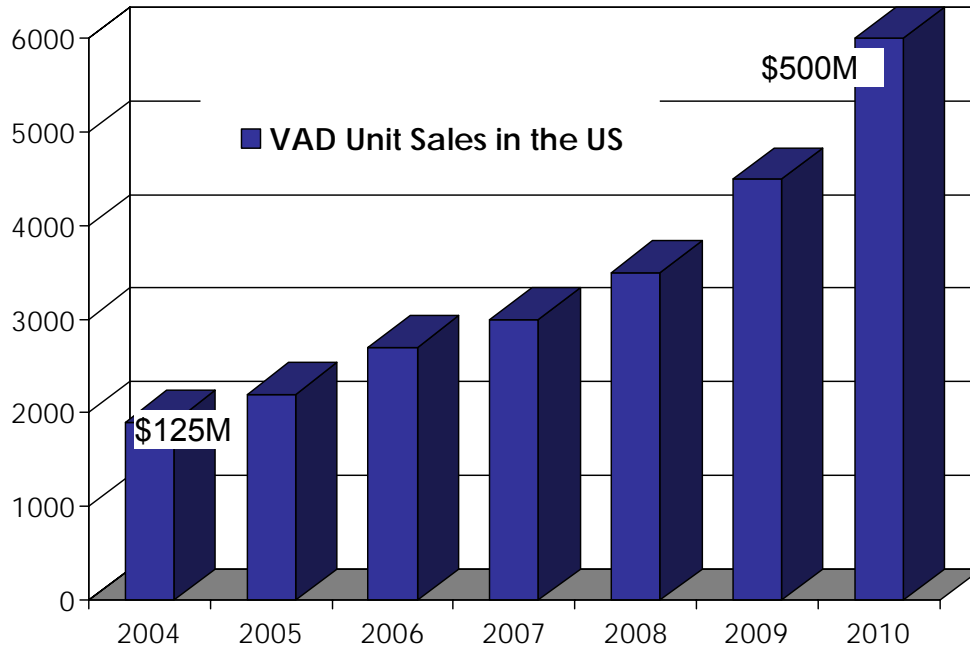


Source: Circulation, AHA update, February 14, 2006
Heart Failure Society of America / NHLBI

LVAD's are the only viable option for most

- Heart transplantation is a proven therapy, but is limited
 - » *Fewer than 4,000 donor hearts available worldwide each year*
 - » *Many patients not suitable for transplantation*
- Alternative therapies don't work
 - » *Drugs & pacing do not halt disease progression*
 - » *Surgical techniques and other devices have not addressed the need*
 - » *Cell therapy is in its infancy and has mixed results*
- LVAD's provide the only therapy that can rehabilitate patients from NYHA Class IV to Class I
 - » *Data continues to improve and demonstrate long term benefits*

The market is growing and poised to accelerate

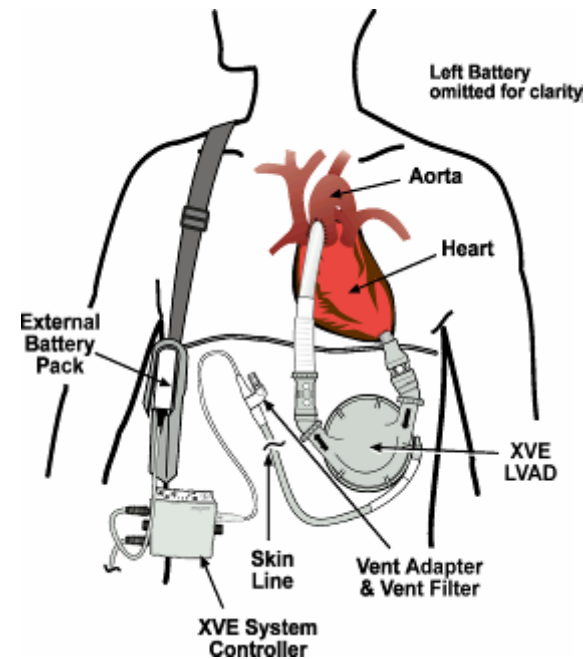


- >12% pa compound growth in past 3 years with no new technology since 1998
- NIH estimates 100,000 patients per year in the US could benefit from an LVAD
- Medicare & Medicaid reimbursement – US\$136,000 for the procedure (incl. ~US\$75,000 for the device)
- Implied market potential US\$7B

Source: 2006 Frost and Sullivan, US Congestive Heart Failure Device Markets; and HeartWare internal projections

The market has grown despite sub-optimal technology

- Large device size
- Invasive surgery
- Risk of infection
- Adverse G.I. effects
- Limited durability
- Risk of stroke due to blood clots



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Source: NHLBI Working Group, April 2005:
Limitations of Currently Available VADs

The Thoratec HeartMate XVE - the only VAD
with FDA approval for Destination Therapy

The HeartWare® LVAD System addresses the clinical need

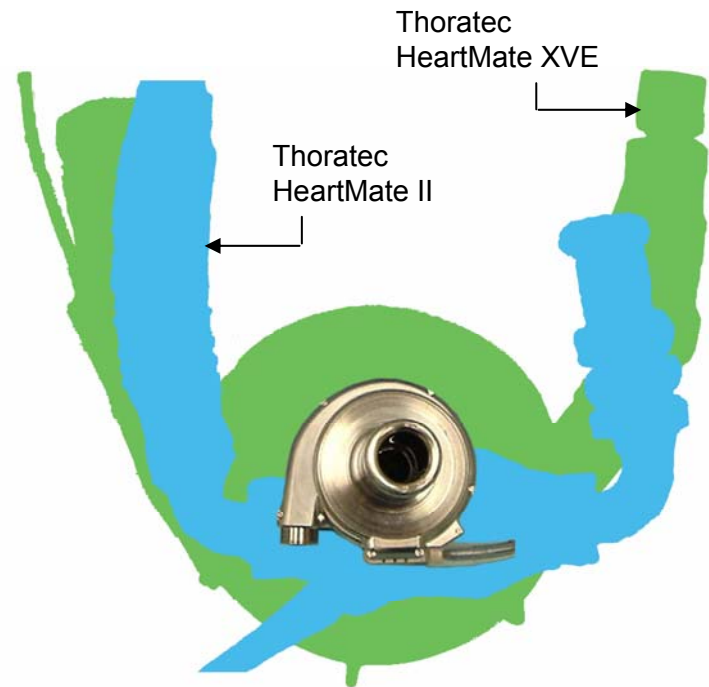
- The smallest full output pump available
 - » *Thoracic placement – no abdominal surgery*
 - » *Shorter and less complex procedure (~ 1.5 hours) relative to competing devices*
- Improved blood flow characteristics
 - » *Minimal haemolysis*
- Long term reliability
 - » *One moving part, no mechanical bearings, wearless suspension*
 - » *Dual motor stators*
 - » *Designed for 10+ years of pump performance*



The HeartWare pump is implanted directly into the apex of the left ventricle

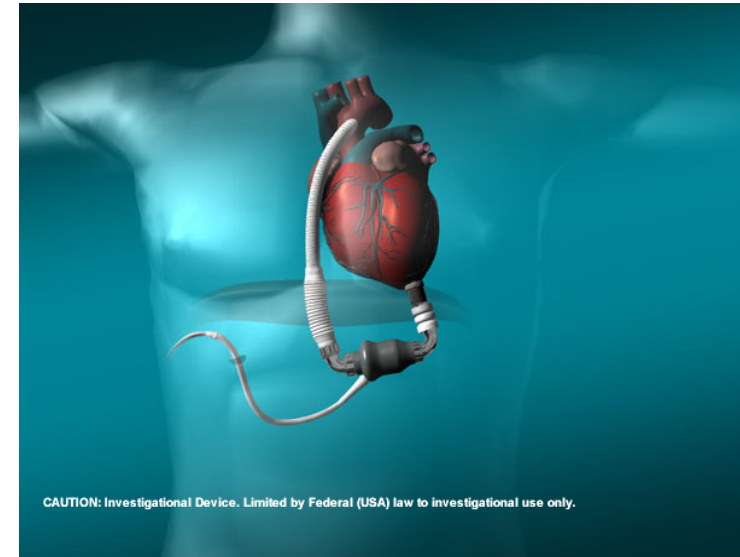
Size REALLY matters

- The HeartWare® LVAD System pump is the only full output LVAD implantable within the pericardial space in all patients
 - » *No abdominal surgery*
 - » *No postoperative drains*
 - » *No pump pocket infections*
 - » *No GI distress related to abdominal wall pressure*
 - » *Reduced procedural invasiveness and complexity*
 - » *Very short pump implant time*
 - » *Low procedural morbidity*
 - » *Reduced recovery time*



The Thoratec HeartMate II

- The market leader's most advanced device
- CE Mark in November 2005
- BTT trial enrolment (133 pts) completed May 2006
- DT trial enrolment (200 pts) completed May 2007
- BTT data presented March 2007:
 - » 133 patients implanted
 - » 100 patients (75%) reached the principal endpoint*
 - 56 transplanted
 - 43 supported by the pump and eligible for transplant
 - 1 cardiac recovery
- FDA Panel review November 2007. BTT Approval anticipated early 2008.



CAUTION: Investigational Device. Limited by Federal (USA) law to investigational use only.

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* Principal endpoint: heart transplantation, cardiac recovery, or survival at 180 days with ongoing mechanical support

The HeartWare® LVAD System patient and hospital equipment

Clinical Monitor



Battery Packs and Charger



Wearable Controller

International CE Mark clinical trial

- Trial enrolment completed August 2007 (20 patients)
- Extension approved to allow up to 30 patients (currently 22)
- Primary endpoint is survival to 180 days or transplant
- Submission of Technical Dossier expected Q4 2007, CE mark anticipated Q1 2008

Centre	Country	Principal Investigator	Implants
Vienna General Hospital	Austria	Dr Georg Wieselthaler	7
Royal Perth Hospital	Australia	Dr Gerry O'Driscoll	4
Hannover Medical Center	Germany	Dr Martin Strüber	6
Harefield Hospital	UK	Dr Asghar Khaghani	2
St Vincents Hospital, Sydney	Australia	Dr Paul Jansz	3

Promising clinical results

- 22 implants
- Cumulative support >4,000 days
- Average duration of support >180 days per patient
- Successful completion of primary endpoint for 12 patients
- 3 transplants, at 425, 348 and 157 days respectively
- 1 successful “recovery” patient - pump explanted after 268 days.
- Rapid implant procedure and post-operative recovery
- Excellent clinical outcomes



Dr George Wieselthaler, Principal Investigator at Vienna General Hospital, with three of his HeartWare patients

Pipeline: getting bigger by getting smaller

HVAD™



MVAD™



IV-VAD™



Procedure

Surgical

Flow

10 L/min

Patient Class

Late Class IV

Treatable Pop.

100,000

Minimally Invasive

10 L/min

Class IV

350,000

Catheter Delivery System

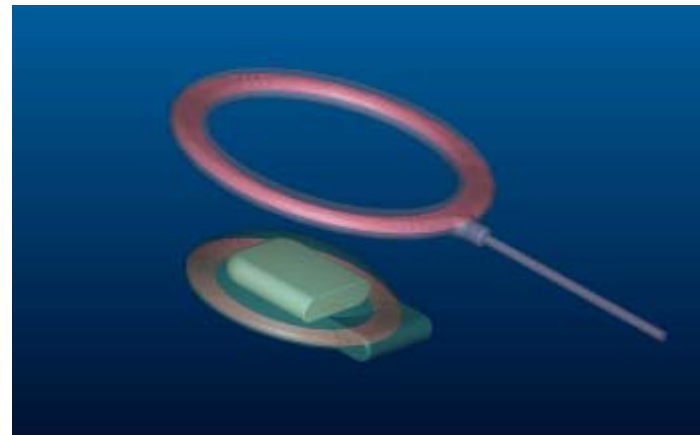
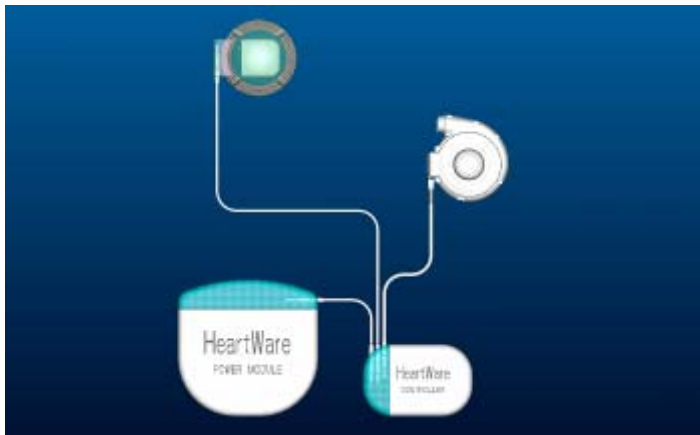
3 L/min

Class III / Early Class IV

1,000,000

The next major advance: TETS

- Transcutaneous Energy Transfer
 - » Enables transfer of energy and information across the skin
 - » Replaces driveline cable and eliminates risk of driveline complications
 - » Enables patient to be un-tethered from the charging system for extended periods
 - » TETS system compatible with The HeartWare® LVAD System, MVAD™ and IV-VAD platforms



Key Upcoming Milestones

Milestone	Indicative Timing	Completed
Submission of IDE to US FDA	Q4 2007	✓
Extension of International Trial to allow additional implants	Q4 2007	✓
Submission of Technical Dossier to Competent Authority	Q4 2007	
Receipt of CE Mark (European Regulatory Approval)	Q1 2008	
Commencement of US Clinical Trial	Q1 2008	
First revenue	Q1 / Q2 2008	

Financial snapshot

- Cash on hand ~ \$38M (at 30 Sep 07)
- Burn rate ~ \$2M per month
- First revenue Anticipated early 2008
- Shares on issue ~ 248M
- Market Cap ~ \$190M
- Number of employees 75
- Apple Tree Partners ~39% of shares
- Top 20 shareholders ~75% of shares

Summary

- Heart Failure is a disease of epidemic proportions
- LVAD's are emerging as the only viable treatment option
- HeartWare has the most compelling LVAD in the clinic today AND the most advanced pipeline of future products