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MEM & NEWCASTLE UNI PROGRESS PROSPECTIVE REPRODUCTIVE TECHNOLOGY OPPORTUNITIES

PROFESSOR JOHN AITKEN INCREASES HIS COMMITMENT WITH MEM

Highlights

- **MEM and Newcastle University are progressing with a number of product opportunities in reproductive technology, in addition to the current commercialisation of the Felix device**
- **Global fertility expert Professor John Aitken has increased his commitment to MEM and is now working closely with the Company to progress these product initiatives**
- **Programs include the next generation Felix device for human and wider animal market, diagnostics for animal fertility and semen oxidative stress and development of long life sperm storage media.**
- **Various product opportunities initially being developed for animal use also have potential human applications**
- **Technical feasibility studies are progressing to establish these products' operational and economic viability.**
- **Significant market opportunities for new initiatives:**
    - **Global vet Artificial Insemination industry anticipated to grow to US$2.5Bn by 2026[1]**
- **Commercialisation of Felix device remains the primary focus for MEM with first sales on target for Q4 CY2020**

Australian-based reproductive medicine company Memphasys Limited (ASX: MEM) ("Memphasys" or "the Company") is pleased to announce the Company, in collaboration with Newcastle University, is progressing a number of new product projects in niche reproductive biology applications which have potential for high-value market opportunities.

In a major development for the Company, global fertility expert Professor John Aitken – who along with his team at Newcastle University have been collaborating with Memphasys in developing the Felix device – has increased his commitment to Memphasys with a view to progressing these new product initiatives as rapidly as possible.

Professor Aitken has become the top ranked world expert in spermatozoa and sperm capacitation (the physiological changes sperm must undergo to be able to penetrate and fertilise an egg)[2] as well as a leader in Australian research grant success. In 2020, he stepped down from his major leadership position as Pro Vice Chancellor - Medicine and Science, allowing him to once again focus on research & development initiatives.

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[1] Grand View Research - "Veterinary Artificial Insemination Market Size, Share & Trends Analysis Report By Animal Type (Cattle, Swine, Sheep, Canine), By Product (Normal & Sexed Semen), By End-use (Vet Hospitals & Clinics), By Region, And Segment Forecasts, 2019 - 2026".

[2] According to Expertscape (Expertscape.com), an objective global ranking of medical experts based on articles published since 2010. These two top rankings are based on 21,146 and 794 articles published respectively on "spermatozoa" and "sperm capacitation".

With Professor Aitken now at liberty to pursue new R&D opportunities, Memphasys and Newcastle University have been exploring novel and highly prospective product ideas focused on male infertility in both humans and animals.

This exercise has led to a group of product opportunities initially developed for animal use, some with potential application for humans.

Technical feasibility studies on these projects are progressing to establish these products' operational and economic viability. The goal is to complete these feasibility studies by the end of Q4 CY2020, at which time the board will determine what, if any, are progressed into the research/ development phase into 2021 and beyond.

It is important to note that commercialisation of the Felix device remains the key focus for Memphasys, with first sales still on target for Q4 CY2020.

Memphasys Executive Chairman Ms Alison Coutts said:

"This is an exciting phase in the recent history of our company. While our primary objective is to bring our Felix device for human IVF into commercialisation, we are not a one product company.

Over the past few months, we have strengthened our relationship with Newcastle University by jointly progressing a number of projects focused on male infertility in animals and humans which are now at technical feasibility study stage.

If successful and requisite internal and external hurdles are met, then these niche products may provide significant additional revenue streams to the Felix device. In the global animal artificial insemination industry alone, there are significant potential opportunities with the size of the global vet AI market estimated to reach US$2.5 billion by 2026.[3]

Professor Aitken and his team at Newcastle University have an international reputation in andrology and reproductive biology. Professor Aitken's decision to work more closely with MEM in order to advance these important initiatives is a strong endorsement of our MEM team and our continuing achievements in the field of reproductive biology.

I, along with the rest of the Company look forward to continuing our work with Professor Aitken and his team to potentially progress these initiatives to commercialisation."

Overview of MEM Assisted Reproductive Technology Product Developments

MEM Assisted Reproductive Technology Product Developments	
Product	**Application; Target Market**
Human Market	
Felix	Sperm separation; for use in IVF clinics
Felix media	Use in Felix to replace 3rd party media; for all markets
Long life media	Long term preservation of sperm without need to freeze; for use in IVF

[3] Grand View Research - "Veterinary Artificial Insemination Market Size, Share & Trends Analysis Report By Animal Type (Cattle, Swine, Sheep, Canine), By Product (Normal & Sexed Semen), By End-use (Vet Hospitals & Clinics), By Region, And Segment Forecasts, 2019 - 2026".

Semen oxidative stress diagnostic	Semen quality assessment diagnostic; for testing the males in infertile couples
Animal Market	
Stallion Fertility Test (at dismount)	Fertility testing of semen; for use primarily in thoroughbred horse industry
Semen oxidative stress diagnostic	Semen quality assessment diagnostic; for use initially in equine for testing stallion fertility. Applies to many animal species
Long life media	Long term preservation of sperm without need to freeze; for use in IVF
EQUUS	2nd-gen sperm separation platform; for use initially in horse but applicable across all species. 2nd gen *Felix* for humans in longer term

This announcement has been approved for release by the board of Memphasys Limited.

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For further information please contact:

Alison Coutts
Executive Chairman
Memphasys Limited
T: +61 2 8415 7300
E: alison.coutts@memphasys.com

David Tasker
Managing Director
Chapter One Advisors
T: +0433 112 936
E: dtasker@chapteroneadvisors.com.au

About Memphasys:

Memphasys Limited **(ASX: MEM)** specialises in biological separations for high value commercial applications. The Company's patented membrane processes in combination with electrophoresis, the application of an electrical potential difference across a fluid, enable the separation of high value substances or contaminants from the fluid in which they are contained.

The main application of the technology is the separation of the most viable sperm cells for artificial reproduction, most particularly for human IVF.

Website: www.memphasys.com