



ASX Release

UPDATE ON NEXT STAGE OF SPERMSEP DEVELOPMENT

Sydney, Thursday 18 May 2017

Memphasys (**ASX: MEM**) is pleased to report that it has now formally engaged Hydrix as its SpermSep device development partner. The first stage of the program has already commenced and involves the initial engineering design and development of prototype cartridges for the next generation SpermSep device.

Hydrix, based in Melbourne, is a leading specialist developer of high technology devices and has extensive experience with other regulated products including medical devices. Services range from applied research and initial concept definition and specification, through all stages of engineering, development, prototyping, manufacturer management and certification process management for the development of innovative devices for global markets.

Hydrix has been partnering MEM for over 18 months and the Hydrix team has a very good understanding of the core technology and the detailed requirements for the prototype cartridges. These innovative, miniaturised cartridges have been redesigned with new biocompatible membranes developed by MEM with reformulated, disposable buffers and a novel, simplified and cheaper flow configuration that results in improved viable sperm harvest. Patent protection is being pursued for the new cartridge design and the new membrane.

The cartridges will process greater volumes of semen of up to 1.8 ml, a three-fold increase from the current processing volumes. The higher processing volume will provide a larger quantity of viable sperm, ideal for a range of assisted reproductive treatments inclusive of In-Vitro Fertilisation (IVF) and Intra Cytoplasmic Sperm Injection (ICSI)¹ and potentially for the large untapped Intra Uterine Insertion (IUI)² market.

Five cartridges are to be produced for this next developmental stage. These cartridges will be re-usable to enable multiple testing by MEM's scientific research collaborators at minimum cost. The membranes, buffers and semen samples will be changed between uses. MEM currently expects that prototypes will be delivered early in 2018FY.

Mark Bryden, Managing Director of Hydrix commented: "We are excited to now be moving ahead with the development and look forward to working closely with the MEM team as we engineer the cartridge and provide regulatory input and guidance. This is a fantastic innovation that promises to enhance many lives."

Hydrix are to be issued up to 5 million ordinary MEM performance shares at nil consideration which will be for approval by shareholders at the next general meeting on the following basis: 2 million shares for

¹ ICSI is the process whereby a single selected sperm is injected directly into the egg.

² IUI involves the direct insertion of sperm into the woman's cervix or uterus in a procedure normally carried out at an obstetrician or gynaecologist's rooms. IUI is the most commonly used artificial insemination technique. It has the advantages of being comparatively inexpensive and uncomplicated and is often used before couples go on to seek IVF treatments.

meeting budget and schedule and a further 3 million shares for beating budget by 10% and meeting schedule.

After internal testing at both Hydrix and MEM, the cartridges will be tested by our broader scientific research and commercialisation collaborators which include the University of Newcastle, Monash IVF, Westmead IVF and the University of NSW. Early feedback from collaborators is expected to be received prior to the end of the September 2017 quarter. This feedback in combination with various test results will be used to refine the final product design and specifications.

Professor John Aitken commented: "With the engagement of Hydrix, we are now in an extremely powerful position to develop prototype instruments for clinical assessment by the ART industry. This constitutes a giant leap forward in our capacity to bring this novel cell separation technology to market."

MEM is also applying the same core technology to the field of animal reproduction and will use one of the cartridges, with some easy modifications, for testing on fresh bovine and equine semen in collaboration with the University of Newcastle.

The development of these first five cartridges will be a crucial step towards development of the final, fully disposable cartridges that will be used in the end-product which is to be validated by *in-vitro* key opinion leader studies.

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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.

About Hydrix

Hydrix specialises in the design and development of high technology devices for a wide range of industries for Clients around the world. Hydrix offer a comprehensive range of software and electronic product design services ranging from applied research and initial concept definition and specification, through all stages of engineering, development, prototyping, manufacturer management and certification process management for global markets.

Hydrix is about "Excellence in Engineering".