



**PRESS RELEASE –MARCH 2012**  
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## **Singapore's Wearable Artificial Kidney Received Awards From US Department of Veterans Affairs and Institution of Engineers Singapore**

January, 2012 - AWAK Technologies is developing the world's first peritoneal-based automated, wearable, artificial kidney (AWAK). This pioneering technology has garnered a string of global awards and recognitions, including the Veterans Affairs Innovation Initiative (VAi2) Award from the US Department of Veterans Affairs and the Institution of Engineers Singapore (IES) Prestigious Engineering Achievement Award.

The VAI2 Industry Innovation Competition's 2010 theme on "New Model of Dialysis and Renal Disease Treatment" invited companies to submit proposals to test utility and feasibility of employing wearable dialysis devices. AWAK Technologies was selected by the Department of Veterans Affairs for this category and was awarded a contract in September 2011 to support the study of an automated wearable artificial kidney system. The study will validate the safety and efficacy of the wearable (1kg, battery-operated), sorbent-regenerated, peritoneal-based dialysis system with an animal study, (conducted in San Diego) and preceded by a series of *in vitro* and *ex vivo* studies. This study will run from 2012 to 2013.

"The VAI2 Award is the initiation of a major paradigm shift in kidney dialysis," said Dr. Gordon Ku, Chairman of AWAK Technologies. "Wearable dialysis provides mobility to patients and promises improved quality of life".

"This is a significant achievement for AWAK. It shows that Singapore's med/tech companies can develop innovative products that address critical healthcare and medical needs," said Mr. Png Cheong Boon, Chief Executive of SPRING Singapore.

The artificial kidney system is a joint development between AWAK Technologies and Temasek Polytechnic by pooling their expertise in clinical, technological and product development areas with strong support from SPRING Singapore. The resulting world-class design also received the IES Prestigious Engineering Achievement Award from Dr. Yaacob Ibrahim, Minister of Information, Communications and the Arts on November 11, 2011 at the IES National Engineer Day.

"Moving forward, we are rolling out global clinical studies in the US, Europe and Asia", said Mr. Kok Beng Neo, President and CEO of AWAK Technologies. "The first human trial will be done with Singapore General Hospital and the first in pediatrics with the University Children's Hospital Tubingen in Germany."

## **About End Stage Renal Disease (ESRD)**

End Stage Renal Disease (ESRD), resulting in total permanent kidney failure, affected 4,169 people in Singapore in 2008<sup>1</sup>. Only 108 patients had chosen kidney transplants and the remaining had to rely on dialysis to maintain life and , every year, there are more new cases of kidney failure. In 2008, there were 768 new cases compared to 564 in 1998. That is a 36% increase over a 10-year period. This trend is not unique to Singapore only. The current global number of ESRD patients is close to 3 million and is expected to grow 4 to 8% annually in developed and developing countries<sup>2</sup>. The increasing number of diabetic cases, an aging population, and their risk for hypertension, are some factors that contribute to the increasing number of patients with kidney disease. The global expenditure on ESRD is US\$69 billion in 2010, and is estimated to reach US\$85 billion by 2015<sup>1</sup>.

## **About VAI2 Competitions**

The mission of the Veterans Affairs Industry Innovation (VAI2) Competition is to provide innovative solutions to complex VA problems. The VAI2 Competition strives to elicit solutions that in turn provide high quality, effective, and efficient information technology (IT) in support of those responsible for providing care to veterans at the point-of-care, as well as, throughout all the points of the veterans' health care. The program is designed to tap expertise both, inside and outside the government, to improve access to services, lower costs, improve quality, and enhance the performance of VA operations.

## **About IES Prestigious Engineering Achievement Awards**

The Institution of Engineers (IES), Singapore was formed in July of 1966. In 2005, the Institute of Engineers Singapore (IES) established the Prestigious Engineering Achievement Awards to recognize outstanding achievements of engineers in Singapore. These awards are based on engineering achievements that demonstrate outstanding engineering skills which have made significant contribution to progress in engineering and the quality of life in Singapore. The criteria for the awards are based on contributions to the well-being of people and communities, resourcefulness in planning and in solutions to design problems, pioneering use of materials and methods, innovations in planning, design and construction, and unusual aspects and aesthetic values.

## **About SPRING Singapore**

SPRING Singapore is the development agency responsible for helping Singapore enterprises grow. SPRING works with partners to help enterprises in financing, capability and management development, technology and innovation, and accessing new markets. As the national standards and accreditation body, SPRING develops and promotes an internationally-recognized standards and quality assurance infrastructure that builds trust in Singapore enterprises, products and services; thereby enabling their global competitiveness and facilitating global trade.

## **About AWAK Technologies**

AWAK Technologies Pte Ltd was incorporated in 2007, with offices in Singapore and Burbank, CA. It is dedicated to the research, development and marketing of a peritoneal dialysis-based automated, wearable, artificial kidney for the treatment of patients with end-stage renal disease. It was founded by Dr. Gordon Ku (Chairman of Kidney Dialysis Foundation), Dr. David B. N. Lee and Dr. Martin Roberts (both of the Veterans Affairs Greater Los Angeles Healthcare System and the David Geffen School of

Medicine at UCLA), and Mr. Kok Beng Neo. Drs. Roberts and Lee are co-inventors of the technology, which was exclusively licensed by the University of California at Los Angeles to AWAK Technologies. The company collaborates with Temasek Polytechnic in the engineering and development of AWAK.

<sup>1</sup>Singapore Renal Registry, 2008. *Seventh report of the Singapore Renal Registry 2007/2008*. Singapore: Health Promotion Board.

<sup>2</sup>U S Renal Data System, 2011, *USRDS 2011 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States*, Bethesda, MD: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases.

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