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**BPH INVESTEE CORTICAL DYNAMICS LTD- UPDATE ON PATENT COVERAGE  
AND ADVISORY PANEL APPOINTMENT**

BPH Energy Ltd (ASX:BPH) investee company Cortical Dynamics Ltd (“Cortical”) is pleased to announce the issuance of European Patent Number 2088924 “Neurodiagnostic Monitoring and display System “in Belgium, France, Germany and United Kingdom.

Cortical has developed an extensive patent portfolio encapsulating the BARM, providing critical patent protection across a number of key brain monitoring markets.

Corticals’ competitive advantage is underpinned by a strong patent position covered by six patent families and 26 granted patents.

Currently, Cortical has patents awarded in Australia, New Zealand, Japan, the People’s Republic of China, Europe and the United States.

**Advisory Panel Appointment**

Cortical has also confirmed the appointment of Jamie Stanistreet to the Cortical Dynamics Advisory Committee.

From 2001-2018 Jamie was the Managing Director and Vice President of Medtronic Aust /NZ. Medtronic is currently ranked as the world’s largest medical device company.

Under his tenure Medtronic revenue grew 10-fold, and he managed over 950 employees. Medtronic’s focus on Medical devices includes Cardiology, Spine, Surgery, Brain Modulation, ENT, Pain, Stroke & Diabetes.

He was a member of the APAC Leadership Team. Jamie also served as Vice Chairman with the Medical Technology Association of Australia for several years.

Jamie has over 40 years’ experience in the Medical Device industry and is an accountant by trade.

He was finalist in the CEO Magazine Executive of the year award 2014 - 2015 and won the Medical Technology Association of Australia inaugural Outstanding Achievement Award 2013.

Jamie's experience, connections and knowledge will be invaluable to the commercial development of Cortical Dynamics.

David Breeze (Director) authorised the release of this announcement to the market.

David Breeze  
Executive Director



## INTRODUCING BARM BRAIN FUNCTION MONITOR

- Developed in Australia by Cortical Dynamics to better detect the effect of anaesthetic agents on a patient's brain activities and aid anaesthetists in keeping patients optimally medicated
- The only system with methods (or algorithms) based on a model of brain electrical activity derived from physiological principles. Existing monitoring systems on the market use statistically based empirical approaches
- Offers improved patient health outcomes and reduces hospital costs
- BARM reliably quantifies and continuously monitors a patient's anaesthetic state.

Cortical Dynamics

### About Cortical

Cortical is an Australian based medical device technology company that has developed a next generation Brain Function Monitor. The company is focused on commercialising the intellectual property developed at Swinburne University. The core-product the Brain Anaesthesia Response (BARM) monitor has been developed with the objective of better detecting the effect of anaesthetic agents on brain activity, aiding anaesthetists in keeping patients optimally anesthetized.

The BAR monitor improves on currently used electroencephalogram (EEG) technologies by incorporating the latest advances in our understanding of how the brain's rhythmic electrical activity, the electroencephalogram (EEG), is produced. The approach used is fundamentally different from all other devices currently available in the market in that its underlying algorithm produces EEG indexes which are directly related to the physiological state of the patient's brain.

The global brain monitoring devices market is broadly segmented into three categories based on its product, application, and end-user. Fueling market growth is the various technological advancements which are leading to high functionality, lower costs, ease of operation, and miniaturization of devices.

Cortical will initially focus on the Total Intravenous Anaesthesia (“TIVA”) market within Europe. TIVA provides a method of inducing and maintaining general anaesthesia without the use of any inhalation agents. The English healthcare body NICE (National Institute for Health and Care Excellence) has recommended EEG (electroencephalogram) based depth of anaesthesia monitors as options in patients receiving TIVA and in patients who are considered at higher risk of adverse outcomes during any type of general anaesthesia. This includes patients at higher risk of unintended awareness and/or excessively deep anaesthesia. It has been estimated that approximately 29 million major general surgery general anaesthesias are conducted in the EU each year of which 55% are balanced anaesthesia (using a combination of intravenous agents such as propofol and volatile gases) and 20% are total intravenous anaesthesia (TIVA) using propofol.

Cortical now has Seattle based, USA IntuitiveX (“IX”) and Seoul based, Gentium Partners as shareholders. IX is a US life science accelerator, incubator and consulting service investor.