



3 October 2016

Companies Announcement Office
ASX Limited
Exchange Centre
Level 4, 20 Bridge Street
Sydney, NSW 2000

**Cortical Dynamics Ltd – Announced as a finalist in Australian Technologies
Competition**

Please find attached an update from BPH Energy Ltd (ASX: BPH) investee company Cortical Dynamics Ltd.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "D Ambrosini".

Deborah Ambrosini
Company Secretary

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3 October 2016

BPH Energy Limited
14 View Street
North Perth, WA 6006

CORTICAL DYNAMICS ANNOUNCED AS FINALIST FOR AUSTRALIAN TECHNOLOGIES COMPETITION

Cortical Dynamics Limited ("**Cortical**") is pleased to advise that it has been announced as a finalist in the Australian Technologies Competition (ATC).

The ATC has selected its finalists across eight industry categories. This follows on from the extensive mentoring and Business Plan judging by the competition's eminent panel of experts. With a focus on building global success stories, the judges are looking for not only the best technologies but also the best managers and the best business plans.

Now in its sixth year, the ATC finds mentors and develops Australia's best technology companies with the Greatest Global Potential. The ATC16 Business Accelerator helps turn good technologies into great businesses.

Cortical has been chosen as one of three finalists in the Medtech and Pharma award and as one of three in the further category for Advanced Manufacturing.

The finalists are leading Australia's creation of new knowledge and skills intensive industries that will forge Australia's position in global high-tech markets.

About the Australian Technologies Competition

The 2016 ATC has established itself as Australia's premier technology accelerator. The competition provides mentoring for innovative SMEs and awards those who are best positioned to become global success stories.

Over the last five years, the competition has generated over \$250 million dollars in investment and project opportunities for Australian SMEs. It has attracted over 700 entries and 125 companies have so far benefitted from the mentoring program.

Australian and international government partners of the ATC include the Australian Department of Industry, Innovation and Science, the City of Melbourne, the NSW Department of Industry, Hong Kong Trade & Development Council and UK Trade & Investment.

Please see attached press release for further details.

Yours sincerely,

A handwritten signature in black ink, appearing to read "D. Breeze".

David Breeze
Chairman
Cortical Dynamics Ltd

Cortical Dynamics Ltd

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About Cortical

Cortical is an Australian based medical device technology company that has developed a next generation Brain Function Monitor (BAR). The core-product the BAR monitor has been developed with the objective of better detecting the effect of anaesthetic agents on brain activity, aiding anaesthetists in keeping patients optimally anaesthetised.

The BAR monitor improves on currently used electroencephalogram (EEG) technologies by incorporating the latest advances in understanding of how the brain's rhythmic electrical activity, the 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 market in 2012 was valued at \$1.08 billion and is poised to grow at a CAGR of 8.6% to reach \$1.63 billion by 2017. 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. Initial marketing will focus on TIVA (Total Intravenous Anaesthesia), a method of inducing and maintaining general anaesthesia without the use of any inhalation agent. This is becoming more widely accepted, particularly in Western Europe.

Cortical's technology has a versatility that goes beyond depth of anaesthesia and may be applied to other EEG based markets, such as Neuro-diagnostic, drug discovery, drug evaluation and the emerging Brain Computer Interface (BCI) market.

There are considerable opportunities offered by subsequent expansion of the company's core technology through developing the product to carry out additional functions including neuro-diagnostics of changes in brain and memory functions to provide early warning of degenerative diseases, pain response and tranquiliser monitoring for trauma patients in intensive care units.

The BAR monitor is protected by five patent families in multiple jurisdictions worldwide consisting 22 granted patents.

About the BAR Monitor

The BAR monitoring system measures a patient's brain electrical activity, the electroencephalogram (EEG), in order to indicate how deeply anaesthetised a patient is during an operation via an adhesive sensor applied to the forehead. The BAR monitor is designed to assist anaesthetists and intensive care staff in ensuring patients do not wake unexpectedly, as well as reducing the incidence of side effects associated with the anaesthetic. Cortical believes that the BAR monitoring system will offer many significant sustainable competitive advantages to key stakeholders including the patients, the anaesthetists, and the hospitals/day clinics. These advantages may reduce the risks associated with surgical procedures, increase levels of patient care, optimize the use of anaesthetic agents, increase efficiencies and reduce costs through a reduction in drug usage and a faster bed turnaround in the theatre and post-operative recovery rooms around the globe.

The electrical activity recorded from the scalp, the EEG, is amongst the most important quantifiable measures of brain function. Unsurprisingly, EEG is used to monitor brain function in a variety of clinical situations such as neurological diagnosis, where the EEG is analysed for early signs of degenerative diseases, or within the operating room, where the EEG is used to indicate the depth of anaesthesia within the surgical patient.

Such monitoring is now gaining significant use during surgery, however even with the use of EEG monitors, it is not uncommon for there to be a critical imbalance between the patient's anaesthetic requirements and the anaesthetic drugs administered. While a number of EEG monitors are commercially available, one that is reliably able to quantify the patient's anaesthetic state is still desperately needed.

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Prior to the development of the BAR monitor, all of the existing EEG based depth of anaesthesia monitors operate in the context of a number of well documented limitations:

- _ Inability to monitor the analgesic effects; and
- _ Not all hypnotic agents are reliably measured.

The above limitations highlight the inadequacies in existing EEG based depth of anaesthesia monitors, particularly given surgical anaesthesia requires both hypnotic and analgesic agents.



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EMBARGOED UNTIL 9:00AM, 3 OCTOBER 2016

ATC 2016

OFFICIAL LETTERHEAD

AUSTRALIA'S BEST EMERGING TECH COMPANIES ANNOUNCED

www.austechcomp.com

Key Highlights:

- Twenty of Australia's best emerging technology companies have been named as Finalists for the Australian Technologies Competition 2016 (ATC16)
- These Finalists will battle it out in front of the judges at Showcase events in Melbourne & Sydney

Industry leading innovators in the sectors of energy, manufacturing, food & agritech, mining, medtech & pharma, cyber security and smart cities are represented in the prestigious Australian Technologies Competition (ATC) Finalist shortlist for 2016.

Now in its sixth year, the ATC has today announced its Finalists across eight industry categories. This follows on from the extensive mentoring and Business Plan judging by the competition's eminent panel of experts. With a focus on building global success stories, the judges are looking for not only the best technologies but also the best managers and the best business plans.

These top innovators will now battle-it-out in front of a live audience in the final rounds of the annual competition. The Cleantech Showcase in Melbourne on 5 October at the All Energy conference will see the Winners of the New Energy and Smart Cities Awards decided. The remaining Awards, including the Australian Technology Company of the Year 2016, will be won and lost at a Showcase & Gala Dinner to be held in Sydney on 2 November. Both events provide an opportunity to rub shoulders with these leading companies and meet the country's top commercialisation experts.

This year's 38 Semi Finalists have jointly spent \$140 million to develop their technologies and have over 300 employees. They are jointly seeking an additional \$45m of investment to bring the solutions to market. To facilitate this, the Semi Finalists all have an opportunity to take part in the unique ATC Investor Connect speed-dating sessions.

Competition Organiser John O'Brien says he is on a mission to turn great technologies into great businesses, *'We aim to find the best companies, provide them with the best mentoring possible and connect them with global partners, including on our trip to Hong Kong in December. We want to help create multi-billion-dollar global success stories.'* Could this be the story for some of this year's Finalists?

The Finalists are leading Australia's creation of new knowledge and skills intensive industries that will forge Australia's position in global high-tech markets. *"This year we have partnered with the Federal Government's Industry Growth Centres to identify and work with technologies from the Government's priority sectors "*, explained O'Brien.

Supporters and partners for the 2016 program include the NSW Department of Industry, National Energy and Resources Australia (NERA) and industry associations including AustMine, AusBiotech, AMTIL and the Facilities Management Association. In addition, export opportunities are provided through the support of UK Department for International Trade and the Hong Kong Trade and Development Council.

Further information and Event Details at www.austechcomp.com

Australian Cleantech Showcase, Melbourne, 5th October

Australian Technologies Showcase, Sydney, 2nd November



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THE ATC16 FINALISTS (*Alphabetical per award*)

AWARD	FINALISTS	AWARD	FINALISTS
Advanced Manufacturing	Advanced Fertigation Systems	Medtech & Pharma	Cortical Dynamics
	Conflux Technology		Imunexus
	Cortical Dynamics		Vectus Biosystems
Cyber Security	CryptoPhoto	Mining Technology	Core Resources
	Secure Code Warrior		Heat Trap Solar SCT Operations
Energy Resources	Long Pipes	New Energy	MAKO Turbines
	SCT Operations		SunSHIFT
	Stochastic Simulation		Wattwatchers
Food & Agribusiness	Advanced Fertigation Systems	Smart Cities	Airtopia
	Aglive		Independent Products
	Greenland Systems		StabilCo

FINALIST DESCRIPTIONS (*Alphabetical*)

Finalist	State	Description
Advanced Fertigation Systems	WA	Advanced Fertigation Systems provides a cost-effective water and nutrient management platform, SWAN (Scheduling Water And Nutrients), that helps to manage water resources, allocations and nutrient inputs precisely and to plan.
Aglive	VIC	Aglive has developed a system and method for digital supply chain traceability that has significantly enhanced tracking of red meat from farmer to end consumer.
Airtopia	VIC	Airtopia is an air conditioning controller that integrates seamlessly with any IR (infra-red) controlled split systems allowing Building Management Systems to fully mimic the original remote control and transforming the process of air conditioning automation.
Conflux Technology	VIC	Conflux Technology uses metal Additive Manufacturing (3D printing) to produce a smaller, lighter and more efficient heat exchanger with intricate geometry and a high surface area density.
Core Resources	QLD	Core Resources' Toowong Process is a novel technology enabling the removal of toxic contaminants from mineral concentrates produced by mines and fix them in an environmentally stable and non-toxic form.
Cortical Dynamics	WA	Cortical Dynamics has developed a disruptive Brain function monitor, the Brain Anaesthesia Response (BAR) monitor, that better detects the effect of anaesthetic agents on brain activity and aids optimal anaesthetisation.
CryptoPhoto	QLD	CryptoPhoto provides better authentication and makes it fast and easy for ordinary people to login and use the internet safely, protecting against phishing scams, social engineers, fake web sites and similar attacks, even if the user is unsophisticated or unmotivated.
Greenland Systems	VIC	Greenland Systems' Evacuated Tube Solar Thermal collector is capable of efficiently raising the temperature of a Heat Transfer Fluid to 200C for direct applications for industry.
Heat Trap Solar	WA	Heat Trap's Emergency Safety Shower Chiller cools unsafe incoming hot water making safety shower and/or eye baths safe to use.
Imunexus	VIC	Imunexus improves the cancer killing ability of existing antibody drugs by quickly and easily creating bispecific biobetter versions using small antibody-like modules called "Imunexins" that can be engineered to bind to any specific target.
Independent Products	VIC	Independent Products' uses the waste-water created by air conditioners to improve energy efficiency by up to 40% and can be retrofitted to most of the world's split system air conditioning and refrigeration units.
Long Pipes	WA	Long Pipes' Fluid Highway is a continuous joint-free pipe, produced at 20kms/day using composite pipe technology cured onsite to provide the lightest, strongest, toughest, fastest to install, longest lasting, cheapest solution for long distance transportation of gases and fluids.
MAKO Turbines	NSW	MAKO Turbines' tidal technology has been designed to produce predictable/baseload renewable electricity from free-flowing water in tides, rivers, canals, inter-island channels or tailraces of hydro dams around the world.
SCT Operations	NSW	SCT Operations' ANZI cell is a device that measures the three dimensional in situ stresses in rock, a key parameter in mining, tunnelling, and related industries.
Secure Code Warrior	NSW	Secure Code Warrior is a web-based gamified skills development and assessment platform that mimics real-life security vulnerabilities in software code, provides instant learning opportunities for developers to locate, identify and fix these vulnerabilities.
StabilCo	NSW	StabilCo's MatrixMaterials provide an innovative roadbase-and-rail infrastructure solution from waste by capitalising on scientifically designed and engineered material properties to deliver improved performance and cost benefits to both infrastructure owners and the environment.
Stochastic Simulation	WA	Stochastic Simulation's ResAssure is a revolutionary reservoir simulation tool for the upstream oil and gas industry that enables the industry to confidently make development decisions with previously unmatched confidence and speed.
SunSHIFT	NSW	SunSHIFT is a pre-engineered, pre-fabricated, moveable turnkey solar-PV solution specifically designed to overcome the limitations of traditional solar-PV and enable new users, such as miners, to adopt alternative energy.
Vectus Biosystems	NSW	Vectus Biosystems has developed a platform technology that allows the production of small molecules that mimic the activity of the vasoactive intestinal peptide (VIP), allowing construction of more than 70 compounds with anti-hypertensive and/or anti-fibrotic properties.
Wattwatchers	NSW	Wattwatchers has developed the ultra-compact Auditor series of internet appliances for energy that deliver accurate, real-time energy management over the internet independently of regulated billing meters and equipment manufacturers' monitoring systems.