



## Company Announcement

Wednesday 8th May 2019

### **Compumedics announces successful MEG installation at Barrow Neurological Institute**

#### Highlights:

- **First-ever Compumedics Neuroscan Orion LifeSpan™ MEG installation**
- **Significant MEG milestone**
- **First stage of commissioning completed at world-renowned USA's Barrow Neurological Institute**
- **Barrow Neurological Institute is the world's largest neurological disease treatment and research institution – home of the Muhammad Ali Parkinson Center**
- **Largest system contract in Compumedics' history, opening pathway to multi-billion dollar brain imaging market**
- **The contract refers to Compumedics' Neuroscan Orion LifeSpan™ MEG system**

**Compumedics Limited (ASX: CMP) ("Compumedics" or "Company")** is pleased to announce the successful installation and first phase commissioning of the Orion LifeSpan™ magnetoencephalography (MEG) at Barrow Neurological Institute (BNI) in Phoenix, Arizona, USA. Compumedics is also in the process of submitting its application for FDA 510(k) clearance, which will allow for clinical use of the MEG device, primarily for epilepsy and pre-surgical brain function mapping. This milestone marks the beginning of an exciting clinical and neuroscience research program planned at the prestigious neuroscience institute.

This successful installation marks a milestone for the MEG, with the Orion LifeSpan™ MEG being the first completely new design of a commercial MEG instrument to be delivered and installed in almost twenty years.

BNI, the world's largest neurological disease treatment and research institution, is consistently ranked as one of the best neurosurgical training centers in the world. The Institute was founded in 1962 and has since grown to be one of the premier facilities in the world for neurology and neurosurgery, with more operative neurosurgical procedures undertaken at BNI than at any other USA institution.



*Dignitaries from BNI, KRISS and Compumedics/Neuroscan in the newly established MEG facility. Back Row L-R: Prof. Yong-Ho Lee, Principal Research Scientist, KRISS; Dr. David Burton, CEO, Compumedics; Dr. Curtis Ponton, Chief Science Officer, Compumedics/Neuroscan. Front Row L-R: Dr. Michael Stein, MD, BNI MEG Medical Director; Mr. Thomas Bour, COO, BNI; Dr. David Treiman, MD, Epilepsy Program Director, BNI; Ms. Barbara McWilliams, Executive Director, Neurosciences, BNI; Dr. Sarah Baran, Clinical Neurophysiology, Manager, BNI.*



*Six-year-old in the paediatric helmet of the Orion LifeSpan™ MEG at Barrow Neurological Institute.*



*The team responsible for the installation of the Orion LifeSpan™ MEG representing KRISS (lead by Prof. Lee, rear third from left), Compumedics Korea (lead by Ms. Ana Oestmark, rear second from right), Compumedics/Neuroscan (lead by Dr. Ponton rear centre)*



*Dr. David Burton, CEO & Chairman, Compumedics and Dr. Thomas Bour, CEO, BNI with the new Orion LifeSpan™ MEG at the commissioning event.*



Orion LifeSpan™ MEG technology has evolved from more than thirty years experience with magnetoencephalography (MEG)/electroencephalogram (EEG) and electroencephalogram (EEG) technologies. Included are innovations in acquisition/analysis/visualisation software, highly sensitive magnetic field detectors and low-noise amplifier electronics, which have been developed at both the Korea Research Institute of Standards and Science (KRISS) and within Compumedics Neuroscan itself.

Ground-breaking features of the Orion LifeSpan™ MEG include advanced Superconducting Quantum Interference Device (SQUID) detectors for unparalleled sensitivity to brain signals; reduced operating cost from zero-loss helium reliquification with 24/7 operation; a fully integrated low-noise, high-density EEG monitoring system utilising the latest Compumedics/Neuroscan technology.

These hardware advancements are fully integrated with the state-of-the-art FDA-approved co-registration, neuroimage processing, and source estimation software known as CURRY – the world’s gold standard for clinical MEG/EEG and neuroscience research. Orion LifeSpan™ MEG also allows for a unique dual-helmet sensing system, with one side optimised for adult MEG recordings and the other for paediatrics. The exclusive pediatric capability will shortly be implemented at BNI, during the second and final installation phase.

**Dr David Burton, Chairman and CEO of Compumedics, said:**

“Compumedics Neuroscan, with our KRISS partners, are pleased to have successfully achieved this first phase of the installation of the Orion LifeSpan™ MEG at BNI.

“We can think of no better institution to take advantage of this new MEG technology and fully showcase the improved ability to detect functional brain signals. We look forward to many years of fruitful collaboration with their distinguished professionals and further advancements in the field of magnetoencephalography.

“The BNI Orion LifeSpan™ MEG installation and first stage of commissioning marks a unique inflection point in Compumedics’ evolution to date, paving the way for a major new global market for the Company. Ultimately this new generation brain function scanner is uniquely positioned to transform brain-health and improve people’s lives, worldwide.”

**Dr Yong-Ho Lee, KRISS head of MEG and SQUID Research Centre, said:**

“We are proud to be involved in the transition of our KRISS MEG technology as part of the Compumedics’ Neuroscan Orion LifeSpan™ MEG system, in order to maintain, improve and establish the national measurement standards for research and clinical practice advancement for South Korea and the world at large.”



**Dr Michael Stein, MD, BNI MEG Medical Director, said:**

“We are extraordinarily pleased with the Orion LifeSpan™ MEG and the much-needed enhanced brain imaging capability it will allow BNI to offer our patients. We are eager to begin MEG measurements for our clinical epilepsy program, which will bring improved surgical outcomes from this debilitating disorder. On the research side, the Orion will offer greater insights into the fundamental workings of both healthy and pathological brain function.”

**Thomas C. Bour, BNI Chief Operating Officer, said:**

“We are pleased that today marks the completion of the first stage of commissioning of the world’s first of its kind Compumedics’ Neuroscan Orion LifeSpan™ MEG system. This unique Orion LifeSpan™ MEG system will help to further assist brain function investigations at BNI, and support our mission to advance innovative technologies for neuroscience clinical services and techniques, research, and medical education, thereby enabling improved outcomes for our patients.”

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### **About Barrow Neurological Institute**

Since opening its doors as a regional specialty center in 1962, Barrow Neurological Institute (BNI) at Dignity Health St. Joseph’s Hospital and Medical Center has grown into one of the premier destinations in the world for neurology and neurosurgery. The experienced, highly skilled, and comprehensive team of neurological specialists provides a complete spectrum of care – from diagnosis through outpatient neurorehabilitation – under one roof.

The institute performs more neurosurgical procedures annually than anywhere in the United States. U.S. News & World Report routinely lists St. Joseph’s as one of the best hospitals in the nation for neurological



and neurosurgical care. BNI's mission is to advance the knowledge and practice of medicine in neuroscience through basic and clinical research, education of medical professionals, and innovation in clinical techniques and technology.

### **About Compumedics Limited**

Compumedics Limited (ASX: CMP) is a medical device company involved in the development, manufacture and commercialisation of diagnostics technology for the sleep, brain and ultrasonic blood-flow monitoring applications. The Company owns US based Neuroscan and Germany based DWL Elektronische GmbH. In conjunction with these two subsidiaries, Compumedics has a broad international reach, including Americas; Australia and Asia Pacific; and Europe and the Middle East.

Executive Chairman, Dr David Burton, founded Compumedics in 1987. In the same year the Company successfully designed and installed the first Australian, fully computerised Sleep Clinic at Epworth Hospital in Melbourne. Following this early success, Compumedics focused on the development of products that sold into the growing international sleep clinic and home monitoring markets.

Compumedics listed on the Australian Securities Exchange in 2000. Over the years, Compumedics has received numerous awards and accolades including Australia's exporter of the year and has been recognised as a Top 100 Innovator by the both German and Australian Governments.

### **About Compumedics Neuroscan Orion LifeSpan™ MEG:**



Compumedics has overcome earlier MEG system barriers with the Compumedics Neuroscan Orion LifeSpan™ MEG's increased precision coupled with fully-integrated MEG (Curry MEG) "gold standard" brain analysis software.

At the heart of the new Compumedics Neuroscan Orion LifeSpan™ MEG system is the patented double relaxation oscillator super conducting quantum interference device (DROS; SQUID) sensor system, providing a new generation of MEG sensitivity and spatial resolution.



Additionally, a unique dual-helmet dewar, enabling optimal brain imaging localisation, applicable to the greater population including both adult and paediatric populations, is coupled to a vibration-free, vacuum-cooling system for virtual 100% coolant recycling with continuous 24/7 operation. These advancements contribute to transforming functional brain-health, but also provide a sustainable business model reinforced by high barriers of market entry, including patented technological and scientifically proven clinical deployment.

Over a 30-year period Compumedics Neuroscan has established the "gold standard" neurophysiological multi- modality (EEG, MRI, CT, SPECT, PET convergence etc.) and MEG brain analysis platform. In parallel, over a 30-year period the Korean Research Institute of Standards and Science (KRISS) MEG team, led by Dr. Lee have produced the most advanced MEG brain imaging scanner.

MEG provides at least 4-5 orders of magnitude of temporal resolution (speed of brain functional or cognitive measures) over other traditional functional MRI, PET or other conventional imaging systems. The new Orion Lifespan™ MEG presents for functional brain imaging today what MRI was to structural or metabolic imaging in the 80's and beyond.