

4 March 2019 Australian Securities Exchange Announcement

## BlackThorn Therapeutics and Total Brain Announce Exclusive License Agreement to Enhance Patient Selection and Development of Targeted Therapies for Neurobehavioral Disorders

- Total Brain and BlackThorn Therapeutics entered a strategic licensing agreement aimed at enhancing patient selection and development of targeted therapies for neurobehavioral disorders
- Under the terms of the exclusive partnership agreement, BlackThorn gains access to a robust clinical subset of Total Brain's iSPOT-D study of depression, for use in its Computational Psychiatry (CompPsych) platform

**Total Brain Limited (ASX: TTB)** a provider of the world's first brain optimization platform, and BlackThorn Therapeutics, a computational sciences and therapeutics company with a focus on neurobehavioral disorders, today announced a strategic licensing agreement aimed at enhancing patient selection and development of targeted therapies for neurobehavioral disorders.

Under the terms of the exclusive partnership agreement, BlackThorn gains access to a robust clinical subset of Total Brain's iSPOT-D study of depression, for use in its Computational Psychiatry (CompPsych) platform. With CompPsych, BlackThorn applies patient-centric, data-driven approaches designed to solve the patient selection problem in central nervous system drug discovery and development, which has been one of the greatest barriers to success in the field historically.

The iSPOT-D (International Study to Predict Optimized Treatment in Depression) clinical study of major depressive disorder, sponsored by Total Brain, enrolled over 1,800 subjects across 20 sites in five countries.

The interventional study was designed to identify objective indicators of treatment response in depressed individuals using a range of clinical variables and diagnostics. The iSPOT-D data set includes functional brain measures such as EEG and neuroimaging data as they relate to symptoms and behavioral performance.

"Total Brain's iSPOT-D study yielded an incredibly rich set of interventional data that has the potential to provide important insight in the development of targeted therapeutics for patients suffering from depression or related disorders," Bill Martin, Ph.D., President and Chief Operating Officer of BlackThorn, said.

"Our CompPsych platform currently is powered with data from thousands of subjects and this exclusive iSPOT-D license expands both the number and the scope of patient populations that will be incorporated in our analytics. By applying digital biomarkers and explainable artificial intelligence (XAI), we are able to cut through patient heterogeneity to optimize patient selection as we advance our therapeutic candidates in clinical trials for neurobehavioral disorders."

"We are excited to partner with BlackThorn Therapeutics who is using state of the art data science to facilitate translational drug discovery. While this agreement is not financially significant at this stage, we believe it further validates the unique clinical data that was collected as part of the iSPOT-D study." Louis Gagnon, CEO of Total Brain, said.

## About BlackThorn Therapeutics, Inc.

BlackThorn Therapeutics is a computational sciences company that develops proprietary therapeutics focused on neurobehavioral disorders. BlackThorn has pioneered the development of a computational psychiatry platform to advance its robust pipeline of novel therapeutics. The company uses data-driven approaches to solve the patient selection problem to create treatments that improve patient outcomes. BlackThorn Therapeutics is headquartered in San Francisco, Calif. For more information, please visit <a href="https://www.blackthornx.com/">https://www.blackthornx.com/</a>.

## About Total Brain Limited (ASX: TTB)

Total Brain Limited (TTB) is a San Francisco and Sydney based company that has developed and sells Total Brain, the world's first brain optimisation platform powered by the largest standardized brain database and has over 600,000 registered users. Its SaaS platform helps people scientifically measure and optimize their brain capacities while managing the risk of impairment by common mental conditions. Benefits for employers and payers across the United States include productivity improvement and healthcare cost reduction. For more information, please visit <a href="www.totalbrain.com">www.totalbrain.com</a> and follow us on <a href="www.totalbrain.com">Twitter</a>, <a href="www.tinkedIn">LinkedIn</a> and <a href="www.totalbrain.com">Face-book</a>.

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