



18 March 2015

## **Aziana signs binding Heads of Agreement with BrainChip Inc., creator of patented Artificial Intelligence technology.**

### **Highlights**

- **Aziana Limited (Aziana) has entered into a conditional Heads of Agreement (HOA) to acquire 100% of BrainChip Inc (BrainChip).**
- **BrainChip has created a Neural Computing technology that autonomously learns (self-learns), evolves and associates information in a manner that replicates the neural behaviour of a biological brain.**
- **BrainChip's technology was patented in the US and Australia in 2008.**
- **Should the transaction complete, Aziana will be the only ASX listed company with a patented artificial intelligence technology that is 5000 times faster, with 1/1000 the power consumption of the world's fastest computers performing neural computing today.**
- **Potential applications include smartphones, robotics, prostheses (including ear & eye implants), toys, gaming, driverless vehicles, drones, and the exciting new sensor-related world of the 'Internet of Things'.**
- **Ten years in development, and endorsed by world's leading neuroscientists.**
- **Opportunity for early and significant revenue.**
- **Ongoing discussions with potential development partners.**

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Aziana Limited (“Aziana” or the “Company”) (ASX:AZK) is pleased to announce it has signed a conditional heads of agreement (HOA) to acquire 100% of the issued capital in BrainChip Inc, the creator of world leading patented technology for autonomous learning devices. Aziana has an exclusive option to acquire BrainChip by paying BrainChip a fully refundable option fee of \$400,000.

BrainChip’s key developer, Peter van der Made, has invented technology that has the ability to learn autonomously, evolve and associate information in a manner that replicates neural behaviour of the human brain. BrainChip consumes significantly less power with much higher performance than graphics processing unit (GPU) or supercomputer neural networks.

BrainChip’s ongoing development work is focussed on the commercialisation of key applications that were prioritised after consultation and direction from potential major technology partners located in California.

Aziana’s CEO, Mr Neil Rinaldi said “This is a fantastic opportunity for all existing and future shareholders. This impressive technology has the ability to become the future de facto standard for all neural computing, worldwide. We are very excited about working with the BrainChip team to finalise the merger, and realise significant growth for the Company.”

### **About BrainChip**

BrainChip is a Delaware (US) incorporated company with operations in California that is at the forefront of neural computing technology.

BrainChip has been 10 years in development by its inventor, Peter van der Made. Peter has been a leader in computer innovation for 40 years and has achieved significant commercial success. He invented one of the earliest high resolution colour graphics accelerator chips for the IBM personal computer, as well as a computer immune system that was ultimately acquired by IBM-ISS where he was appointed Chief Scientist in 2002.

### **THE BRAINCHIP TECHNOLOGY: *Spiking Neuron Adaptive Processor (SNAP)***

***SNAP technology*** - It learns autonomously by emulating the learning behaviour of a human brain, which is achieved via feedback through intensity and repetition. SNAP learns from usage patterns, and evolves learning through experience. Like the human brain these “experiences” are accumulated and stored in its knowledge library.

***A hardware solution*** – BrainChip’s technology is a hardware-only solution that results in high speed computation with very low power consumption. In contrast, software-based solutions are slowed by the need to sequentially step through complex programs that require significant computing resources and time to generate the solutions.

***A significantly faster technology*** –The BrainChip network is completely parallel, with no sequential dependencies. This means that the network does not slow down with increasing size but maintains a constant high performance.

**Endorsed by the neuroscience community** – A number of the world’s pre-eminent neuroscientists have endorsed the technology.

**Patented** – BrainChip is the only company with a patented autonomous learning technology.

**BrainChip has the potential to become the de-facto standard for all neural computing.**

- **Potential Applications** – These include a wide variety of major opportunities such as:
  - *Robotics*
  - *Toys & Gaming*
  - *Driverless Vehicles*
  - *Drones & Air Transport*
  - *Security & Cyber Security*
  - *Speech and Image Recognition*
  - *Biotech/Biomed/Brain Emulation*
  - *Eye & Ear Implants, Prostheses*

**First stage development priorities** - BrainChip’s development plans have been strategically selected following lengthy consultation and guidance from a number of major technology companies. BrainChip has chosen to initially address the following attractive, high volume, lower risk opportunities by exploiting SNAP’s low power consumption capabilities.

- *Smartphone* technology applications that address unique cochlear-based voice signature identification capabilities. These high volume applications when developed are targeted to be licensed to leading smartphone chip manufacturers and will be used in smartphone devices, smart television sets and tablets.
- *The “Internet of Things” (IoT)*. IoT is a term used to describe miniature sensors and intelligent devices that have embedded technology to communicate with one another over the internet. ABI research ([ABI](#)) estimates there will be 30 billion miniature sensors and devices connected to the Internet of Things by 2020.

## **The Neural Cognitive Computing Science Sector**

BrainChip also participates in the neural cognitive computing science sector. The sector is made up of a significant number of well-known companies including Cisco, IBM, Intel, Google, Microsoft, nVidia, Qualcomm and Samsung. The companies operating in this sector are all evolving their own versions of neural architecture designed across different platforms and utilising various techniques in order to achieve their desired results. BrainChip is uniquely positioned within this sector as a developer of a “hardware only” solution with significantly higher performance and low power consumption as opposed to the software solution that is available to the industry today.

## **CREATING VALUE**

BrainChip intends to create value by licensing its intellectual property (IP) to technology partners who will develop BrainChip-based semiconductor chips and products. BrainChip’s partners are expected to incorporate BrainChip’s designs alongside their own technology to create smart, energy-efficient chips and products.

The BrainChip technology would be difficult and expensive for its proposed partners' R&D teams to develop for themselves. It is likely to be more cost effective for BrainChip’s proposed partners to license the technology from BrainChip than to develop it internally. The design of a processor or a library of physical IP requires a large amount of R&D investment and expertise.

## **The BrainChip business model**

BrainChip intends to licence technology designs to its potential technology partners. The technology partners will design and manufacture chips utilising the BrainChip SNAP technology. The chip will then be incorporated into digital electronic products, which are then sold.

BrainChip anticipates receiving an upfront licensing fee, plus a royalty, typically based on a percentage of the chip price or product, for every chip/product sold using BrainChip’s SNAP technology.

Many customers will be able to re-use the same SNAP technology in many different chips going into a broad range of end-user markets. Each new chip will start a new stream of royalties.

## **THE TEAM**

The BrainChip team consists of three experienced executives that have the combined skillset to develop and commercialise the technology. The team includes:

**ROBERT MITRO: President & CEO**

Robert has been a private investor and has served on the boards of directors of Vovida Networks which was acquired by Cisco Systems in 2000; co-founder and director of vCIS Technology which was acquired by Internet Security Systems in 2002; and co-founder and director Telse Communications which was acquired by Level 3 Communications in 2003; and Chairman and CEO of STEP Labs which was acquired by Dolby Labs in 2009; and President and CEO of Rosum which was acquired by True Position in 2010

**PETER AJ VAN DER MADE: Chief Technology Officer**

Peter has been at the forefront of computer innovation for 40 years. He is the inventor of a computer immune system at vCIS Technology where he served as CTO, and then Chief Scientist when it was acquired by Internet Security Systems, and subsequently IBM. Previously, he designed a high resolution, high-speed color graphics Accelerator chip for IBM PC graphics. Most recently he published a book, Higher Intelligence, which describes the architecture of the brain from a computer science perspective.

**ANIL MANKAR: Senior Vice President, Engineering**

Anil has spent 30 years developing products in the semiconductor industry. At Western Digital, he developed PC core Logic chipsets. During his years at Conexant Systems Inc Engineering VP positions and became the company's Chief Development Officer overseeing all product development for V92 Modem, DSL, Set-top boxes, PC audio and video SoC products. He was SVP of VLSI Engineering at Mindspeed Technologies, responsible for Wireless and VOIP infrastructure product development.

Post merger it is envisaged that three nominee members of the BrainChip team will join the board of Aziana.

Peter Wall and Neil Rinaldi are expected to remain as directors of Aziana, with Peter Cook resigning.

### **The Transaction**

Under the terms of the transaction, Aziana has been granted an option (Option) to acquire 100% of the securities on issue in BrainChip in consideration for issuing the BrainChip vendors:

- (a) 303,600,000 fully paid ordinary shares in the capital of Aziana (**Aziana Shares**); and
- (b) Performance shares in the capital of Aziana, comprising:
  - (i) 49,500,000 A Class Performance Shares;
  - (ii) 49,500,000 B Class Performance Shares;
  - (iii) 49,500,000 C Class Performance Shares; and
  - (iv) 49,500,000 D Class Performance Shares.

The Option must be exercised within 20 days from the date of execution of the heads of agreement (enabling Aziana sufficient time to complete its fatal flaws due diligence on BrainChip).

The Performance Shares will convert into ordinary Aziana shares on a one for one basis if the following milestones are achieved within 5 years of settlement of the acquisition:

- (a) each **A Class Performance Share** will convert into one (1) Aziana Share upon Aziana announcing on the ASX that BrainChip has simulated a race car demonstration in software for “proof of technology” by comparing BrainChip’s Spiking Neuron Adaptive Processor (**SNAP**) to traditional Sigmoid technology (**Milestone 1**);
- (b) each **B Class Performance Share** will convert into one (1) Aziana Share upon Aziana announcing on the ASX that BrainChip has implemented the race car demonstration in hardware to visually illustrate the capability and scalability of BrainChip’s SNAP technology to prospective licensees (**Milestone 2**);
- (c) each **C Class Performance Share** will convert into one (1) Aziana Share upon Aziana announcing on the ASX that BrainChip has released a software API specification and RTL design solution for implementing customer Client/Server neural network applications using BrainChip hardware technology (**Milestone 3**); and
- (d) each **D Class Performance Share** will convert into one (1) Aziana Share upon Aziana having announced to the ASX that BrainChip has executed an unconditional binding licensing agreement that has an upfront payment of no less than \$500,000(**Milestone 4**),

Aziana has further agreed that, under the transaction, the BrainChip vendors will potentially receive top up shares in Aziana (along with a proportionate increase in the number of

performance shares and Aziana options to be issued as part of the transaction) in the event they are diluted by a future capital raising by Aziana (required to meet ASX re-listing conditions – see below), such that they maintain their aggregate shareholding in the expanded company.

Aziana has also agreed that the existing holders of warrants in BrainChip will be issued, in aggregate, 7,850,000 options to acquire shares in Aziana (exercisable at the same price that Aziana completes an equity raising and expiry 4 years from their date of issue).

The agreement otherwise remains subject to a number of conditions, including, completion of due diligence by both Aziana and BrainChip within 18 days of execution (subject to extension), obtaining an independent expert's report and the expert forming the opinion that the transaction is either 'fair and reasonable' or 'not fair but reasonable', obtaining all required shareholder and regulatory approvals and Aziana re-complying with Chapters 1 and 2 of the ASX Listing Rules.

If the conditions are not satisfied by the date that is 4 months after the Option is exercised, then either party may terminate the agreement (End Date).

Neil Rinaldi added, "BrainChip is an innovative developer of automated learning hardware that is ahead of the field. We look forward to advancing the technology and forming relationships with potential development partners over the next 12 months. It is also pleasing to note that the SNAP technology has been endorsed by some of the world's top neuroscientists."

"We are extremely excited to bring this opportunity to shareholders and we look forward to updating the market with the fast moving progress of the Company."

#### **Loan by Aziana**

Aziana has agreed, subject to the exercise of the Option, to provide an unsecured loan to BrainChip (subject to BrainChip agreeing loan terms acceptable to Aziana) of up to \$250,000 for the purpose of expenditure on BrainChip's development program in respect of its BrainChip product.

The parties have agreed that the BrainChip loan will be provided as and when required in accordance with BrainChip's budget and only after the parties enter into a separate loan agreement on commercial arm's length terms (**Loan Agreement**). In the event settlement of the transaction does not occur for any reason, the BrainChip loan will convert into common shares in the capital of BrainChip at the same price at which BrainChip issues shares under its next meaningful equity raising (i.e. at least \$1 million), or if that is not permitted by the ASX Listing Rules or applicable laws, it will be repaid to Aziana in cash (along with additional interest to be agreed under the Loan Agreement) from the proceeds of the next debt or equity raising completed by BrainChip in excess of \$2 million (in isolation or aggregated with other raisings).

**Re-Compliance with Chapters 1 and 2 of the ASX Listing Rules**

As the transaction will constitute a significant change in the nature and scale of Aziana's activities, the Company will be required to re-comply with the new listing requirements set out in Chapters 1 and 2 of the ASX Listing Rules (including preparing a full form prospectus).

If the transaction proceeds, Aziana intends to divest all of its existing mineral assets.

**Anticipated Timetable of Key Events**

The anticipated timetable for the key events around the BrainChip acquisition is as follows:

<b>Event</b>	<b>Date*</b>
Announcement of the Transaction	17 March 2015
Exercise of Option (not later than)	6 April 2015
Dispatch of Notice of Meeting to Aziana shareholders for approvals required under the ASX Listing Rules and Corporations Act for the Transaction	4 May 2015
Lodgement of Prospectus for Capital Raising	18 May 2015
General Meeting of Aziana shareholders	2 June 2015
Capital Raising under Prospectus closes	5 June 2015
Completion of the Transaction	15 June 2015
Commencement of trading of Aziana shares on ASX (subject to any re-compliance with the ASX Listing Rules required by ASX)	18 June 2015

\*The Directors of Aziana reserve the right to change the above indicative timetable without requiring any disclosure to Aziana's shareholders.

**Pro-forma Capital Structure**

<b>SHARES</b>	
On issue at execution	204,154,699
Aziana Shares forming part of the consideration securities	303,600,000
<b>TOTAL</b>	<b>507,754,699<sup>1, 2, 3</sup></b>

**Note:**

1. This assumes that no options in Aziana are exercised, that none of Milestones 1 to 4 are satisfied.
2. Additional top up shares to be issued as detailed above.
3. This table does not include the issue of any shares pursuant to an equity raising (see below). The quantum of any equity raising and the offer price per share is yet to be determined. Aziana will update the market when this information is known, and further details will be included in the notice of meeting seeking approval for the transaction.

<b>AZIANA PERFORMANCE SHARES</b>	
A Class Performance Shares	49,500,000
B Class Performance Shares	49,500,000
C Class Performance Shares	49,500,000
D Class Performance Shares	49,500,000
<b>Total Aziana Performance Shares<sup>1</sup></b>	<b>198,000,000</b>

**Note:**

1. Additional top up performance shares to be issued as detailed above.

<b>OPTIONS<sup>1</sup></b>	
Unquoted options	6,390,700 <sup>2, 3</sup>
Options to BrainChip Note holders	6,250,000 <sup>4</sup>
Options to BrainChip Employees	1,600,000 <sup>4</sup>

**Notes:**

1. Additional top up options to be issued as detailed above.
2. 1,180,000 (exercise price \$0.26: expiry 15 May 2015).
3. 5,240,700 (exercise price \$0.059: expiry 30 June 2015).
4. Unquoted options with an exercise price equal to the issue price of the equity raising proposed to be undertaken by Aziana.

It is not contemplated that Aziana will undertake a consolidation of its existing shares.

Aziana is in the process of trying to sell its existing mineral assets and the quantum of any equity raising to satisfy ASX re-listing requirements will largely depend on whether Aziana is successful with this endeavour and the Company's prevailing share price at the time.

At a minimum, Aziana will be required to complete an equity raising of a minimum of \$1 million through the issue of shares at a minimum of \$0.02 each (issue of 50 million shares) if the cleared sales proceeds from the disposal of existing mineral assets exceed \$2 million. Should Aziana be unable to complete the sale of its existing mineral assets then it will be required to complete an equity raising of a minimum of \$3 million (or such other amount to satisfy ASX re-listing requirements) through the issue of shares at a minimum of \$0.02 each (issue of 150 million shares). The issue price of any equity raising will be determined at the time, but will not be less than \$0.02 per share in accordance with ASX policy (and subject to the grant of a waiver by ASX). Aziana is required to have entered into a legally binding agreement for the sale of its existing mineral assets by the earlier of the day before the notice of meeting to approve this transaction is lodged with ASX or 6 weeks from execution of this agreement. It is a further condition of the agreement that whichever of the funding options described above proceeds is completed by the End Date.

**Financial impact on Aziana**

Given that both the BrainChip business is in a growth phase, it is not possible to provide any forecast revenue or profit numbers.

As the final quantum of consideration securities to be issued is not yet known, and due diligence is yet to be completed, an unaudited pro-forma balance sheet showing the impact of the BrainChip acquisition will be included in the notice of meeting.

Enquiries:

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