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## AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

12 December 2017

### EDENCRETE® - US UPDATE

#### HIGHLIGHTS

- **New Product Development**
  - **Product development completed of:**
    - **High concentration, lower cost EdenCrete®HC, and**
    - **EdenCrete®P for use in concrete made with pozzolanic cements.**
  - **Encouraging performance achieved in extensive in-house testing.**
  - **Eight independent laboratory trials using regional cements and commercial mixes, to start immediately across US, testing up to eight performance characteristics, to assist in US marketing.**
  - **Strong interest in EdenCrete®HC and EdenCrete®P anticipated at commercial release at World of Concrete in Las Vegas in January 2018.**
  - **Up to 30 commercial trials of a wide range of performance characteristics planned for next 3- 6 months, starting in next 2 weeks.**
  - **NTPEP trials of both new products and ASTM trials of EdenCrete®P to start in early 2018.**
- **Sales of EdenCrete®**
  - **GDOT- Invitations to Bid (ITBs) for balance of financial year to be issued progressively over the next five months, commencing in January 2018.**
  - **GDOT estimate is still for approximately 22 repair projects before 30 June 2018- 2 projects underway, next ITBs expected in January 2018.**
  - **TxDOT- Sales for TxDOT bridge beams continuing with fourth tanker delivery to the first customer scheduled for January 2018.**
  - **Trials with other TXDOT manufacturers anticipated for Q1 2018.**

## **DETAILS**

### **New Product Development**

#### **Development of EdenCrete®HC and EdenCrete®P completed**

**Eden Innovations Limited (“Eden”) (ASX: EDE) has now completed the development and in-house testing of EdenCrete®HC, a high concentration, lower cost version, and EdenCrete®P, a new version suitable for use in the widely used concrete made with pozzolanic cement.**

**Encouraging performance levels have been achieved with each product in the in-house testing programme, and each product is anticipated to deliver cost competitive benefits to a wide range of customers across the US.**

#### **Independent laboratory trials to start as soon as possible**

To assist in the marketing of these new products, eight highly respected, independent US laboratories, all in different States, have been selected by our sales team to test the new products (seven testing EdenCrete®HC, and one in New York testing EdenCrete®P) using regional cements and widely used commercial mixes. The testing will start this month where possible, or else as soon as possible, and each will test up to eight different performance characteristics including compressive strength, flexural strength, split tensile strength, abrasion resistance, modulus of elasticity, shrinkage, permeability and scaling.

This wide range of testing, which will all be completed in the next three months, will provide valuable independent data on regional performance in widely used mix designs, and should greatly assist our sales team in marketing our products across the US.

#### **Commercial trials to commence immediately with formal release in January 2018**

The formal commercial release of both EdenCrete®HC and EdenCrete®P is planned for the 2018 World of Concrete convention in Las Vegas in January 2018 and is expected to generate significant commercial interest.

Up to 30 commercial trials across all products, targeting the wide range of performance characteristics that are being tested in the eight independent laboratory trials, are planned to occur over next three to six months, and hopefully starting in next two weeks in New York with trials of EdenCrete®P in ready mix trucks using a widely used commercial mix that includes up to 40% of ground, granulated blast furnace slag.

#### **NTPEP and ASTM Trials**

NTPEP trials of both new products are planned to commence in early 2018. These tests will take 12 months to complete. The NTPEP trials should then enable the new products to be approved for use by the various State Departments of Transportation that require the NTPEP testing process to have first been completed before they will approve any new product to be used on their roads and bridges. ASTM trials of EdenCrete®P are also planned for early 2018.

## **EdenCrete®HC**

*EdenCrete®HC is a higher concentration, double strength EdenCrete® that produces performance levels equivalent to at least twice that of the standard EdenCrete®. It retains the same chemistry as EdenCrete®. However, as only half the volume for at least the same performance improvement is required, it results in greatly reduced transport and storage costs, and a net overall higher value product per gallon. As a consequence, it will be sold at a price that will enable customers to achieve at least the same performance level as from the standard EdenCrete® but at a significant discount to the current price.*

## **EdenCrete®P**

*EdenCrete®P is a new product that is compatible with pozzolanic concrete which the original EdenCrete® did not greatly assist. Pozzolanic concrete is a high strength alternative form of concrete that is used in a variety of industrial applications, such as pre-cast concrete, general construction, large industrial concrete structures such as bridges and dams, and marine settings. Pozzolanic concrete is based on using pozzolanic cement as a replacement for standard cement (known as Ordinary Portland Cement, or OPC) in the concrete formation process.*

*EdenCrete®P expands the EdenCrete® range into a significant new market which was previously not being targeted.*

## **Sales of EdenCrete®**

The current Eden sales target, based only on sales of the original EdenCrete®, for this financial year of US\$6 million remains unchanged and is projected to rapidly increase in succeeding years. Eden remains on track to achieve the current year's goal based primarily on existing projects utilising EdenCrete® that are already in the pipeline. Many of these relate to a repair program that is already agreed upon, and for which EdenCrete® is already specified to be used.

With the additional impact on sales of the new product ranges, Eden is hopeful to significantly exceed the current US\$6m target this financial year. Over time however, because of the commercial benefits, EdenCrete®HC is expected to fully replace EdenCrete.

### **The following is a summary of the current position:**

#### **GDOT 2017/2018 Repair Projects**

In June 2017 we received confirmation from GDOT that EdenCrete® would be used in all state funded, full depth slab repair jobs from 1 July 2017 onwards (the start of their financial year) which we now believe may be worth between US\$1m - \$2m.

So far, Invitations to Bid (ITB) have been issued for the first 2 repair projects that will involve the use of over US\$225,000 of EdenCrete®. The latest GDOT estimate that we have received is that there could be up to 22 repair projects in Georgia before 30 June 2018, and we have not been advised in any change in this position. We expect a lot more ITBs will be issued over the next 3-5 months, commencing in January 2018.

In September 2017 we received FHWA approval for use of EdenCrete® in federally-funded, full depth slab repair jobs in Georgia and also received advice that the first job, which would be this financial year, would be of a size that could be worth up to US\$1.3 million to Eden. We anticipate receiving this order sometime during the next six months, but we do not yet have a timetable.

### ***Texas Pre-stressed Concrete Manufacturers***

A leading TxDOT-approved pre-stressed bridge beam manufacturer in Texas has already been supplied with 3 tanker loads of EdenCrete® worth over US\$300,000 and a fourth tanker load is scheduled in January 2018. The customer has recently extended the contract to include two additional plants, and annual sales to this customer alone could now be worth up to US\$1.4 million over the full year.

Discussions for trials with a number of other TXDOT approved pre-stressed bridge beam manufacturers for trails are under discussion and trials are anticipated over the next few months.

### ***Future Sales from other State DOTs other Government Agencies and International Projects***

We have also now been approved for use by the DOTs in 10 states and are pushing ahead to secure trials and possible contracts as early as possible. We anticipate that if FHWA approval is required in any other state (because they specify EdenCrete® by name) we will have a very good chance of receiving it.

We have undertaken important field trials in Colorado for concrete that is subject to extreme levels of salt and other road chemicals.

A number of important trials are either underway or under discussion with other state or federal agencies and other significant commercial companies.

We have also commenced trials in Korea. The cement used in Korea included material which is chemically significantly different from most cement that used in the US and Eden is presently undertaking test work in Colorado on this different cement, in the same way that we worked on and solved the issues with pozzolanic cements, that led to the development of EdenCrete®P. We are hopeful of achieving a similar outcome with the Korean cement.

### ***New Products***

Based on the test results achieved to date and the forthcoming independent testing programme, there is very reasonable chance of additional sales from sales of EdenCrete®HC and EdenCrete®P occurring this financial year, and with further significant sales growth projected in future years.

## **Conclusion**

The great progress that our highly skilled product development team has made with the development of EdenCrete®HC and EdenCrete®P is a major milestone in the expansion of the EdenCrete® product range, and greatly increases our capacity to accelerate our penetration of the huge US and global concrete markets.

## **BACKGROUND**

*EdenCrete® is Eden's 100% owned, proprietary carbon-strengthened concrete additive, that enhances a wide range of performance characteristics of the concrete including compressive strength, flexural strength, tensile strength, abrasion resistance, reduced permeability and reduced shrinkage, thereby delivering stronger, tougher, more durable and longer lasting concrete.*

*One of the primary target markets for EdenCrete® is improving the performance of concrete used in the construction and maintenance of concrete roads, bridges and other infrastructure, particularly where it is subject to heavy wear, freeze/thaw weather conditions and/or high levels of added salt. Additionally, it has potential for use in most other concrete applications including high-rise building construction, marine and coastal applications, water storage and pipelines, hardstand areas, and pre-stressed and pre-cast concrete structures and products.*



**Gregory H. Solomon**  
Executive Chairman