

ACN 109 200 900

# **AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT**

## **18 AUGUST 2022**

# **EDENCRETE® - US MARKET GROWTH**

Eden Innovations Ltd ("Eden") (ASX: EDE) is pleased to provide the following update on the broad market progress that its US subsidiary is making in selling the EdenCrete® range of products into the extremely large US concrete market, for use in a growing range of applications. The projects or sales detailed below are all new projects or sales that are mainly with new customers and have not been previously announced, and supplement existing sales growth that is already being achieved.

# **CONSTRUCTION APPLICATIONS**

#### Colorado

- Smyrna Ready Mix (SRM), Denver
- SRM is new customer that requires approximately U\$10,000 worth of EdenCrete® for a new project in Denver that commences in next few weeks, for which the first order already received.
- SRM is a major US ready mix company founded in Tennessee, operating a large number of plants across 16 US states.
- Eden has recently conducted a successful trial with SRM in Tennessee where Eden is working to engage with SRM in various regional locations.
- United Airlines, Denver International Airport, Denver
  - Replacement for the fifth time, a further set of worn concrete panels in the apron of the United Airlines maintenance hangar, requiring Eden Crete® worth approximately US\$6,500.
  - Each panel is 400 square feet in area (approx. 37 square metres) and 18 inches (46 cm) deep with an anticipated start date in September or October 2022.
  - The significance of this is that the repeated successful replacement projects already undertaken with EdenCrete® are gaining attention at both Denver International Airport itself, and also with a number of other relevant parties including engineering firms that specialise in airport construction and maintenance.
- Civil Innovations, Denver.
  - Approx. US\$140,000 of EdenCrete® for 4 storey training facility, commencing January 2023.
- Loveland Ready Mix, Loveland.
  - o Three new flat work projects (approx. US\$9,500 worth of EC) with further projects expected.

#### Utah

- f'c MIX Salt Lake City.
  - New supplier for a number of large shotcrete customers in Salt Lake City which use f'c MIX to supply the concrete. First order for US\$5,500 received, and an additional US\$15,000 worth of EdenCrete® has been requested. Significant further near-term growth in Utah is expected.

# **South Carolina**

- Concrete Supply Company Greenville
  - Requires US\$15,000 of EdenCrete® for project as the preferred alternative to using a dry shake hardener for the concrete.
- Capital Concrete -Lexington
  - A fourth EdenCrete® repair project for Michelin in the US, requiring US\$1,375 of EdenCrete®.

#### **Texas**

#### U.S. Concrete (Redi Mix Concrete) – Dallas.

- First project for both US Concrete and for contractor
- US\$6,500 of EdenCrete® has been acquired for project requiring 2 gallons per cubic yard.
- This followed a presentation in the Dallas area to the engineering firm that then gave the contractor the option to use EdenCrete® as an alternative to using a dry shake hardener.
- The contactor elected to use EdenCrete® rather than deal with the difficulties of using a dry shake hardener.
- As a result, both the contractor and US Concrete will for the first time, use and experience working with EdenCrete® in Texas, a major US concrete market.

## **SHOTCRETE PROJECTS**

#### Colorado

# · Action Ready Mix, Colorado Springs

- o New customer supplies CDOT shotcrete to Summit GeoStructures
- This concrete project requiring US\$5,000 worth of EdenCrete® is to start in next few weeks

#### **North Carolina**

#### Blue Dot Readi-Mix

- This new contractor that operates nationwide is working on a project in North Carolina, and following a successful trial, is going to use EdenCrete® in order to reduce dust and rebound in shotcrete projects.
- The purchase order for US\$6,875 is expected in immediate future and will complete this first project. Further projects are being discussed.

## **US States in General**

## Shotcrete and Swimming Pools

- The shotcrete market is anticipated to continue to grow significantly across the US, driven by the facts that low cost, small dosages of EdenCrete® deliver significantly greater cost benefits than the total additional cost of adding the EdenCrete®.
- These benefits come from the reduced wear due to lower pump pressure being required, less re-bound (when the concrete falls of the face of the wall and this wasted material must be collected and disposed of), and far better workability for sculpting and/or smoothing the shotcrete after it has been applied.
- Similarly, the large US swimming pool market is a large subset of the US shotcrete market and is an important emerging source of US EdenCrete® sales because of the wide range of benefits when using EdenCrete® at a low dosage, and hence at a low additional cost.
- Executive Swimming Pools owner, Mike Clouse, shared on 17 August 2022 that he has not seen a shotcrete wall collapse since he started requiring EdenCrete® be included in his shotcrete pool shells approximately 2 years ago.

#### **INFRASTRUCTURE**

## Iowa

#### • Clinton County

- The county, a new customer, is purchasing US\$1,635 of EdenCrete® for an initial bridge trial.
- o EdenCrete® is being tested to quantify the performance delivered in relation to:
  - Improved durability,
  - Replacement of a surficial sealer, to reduce cost of material and traffic control.
- lowa, which experiences on average almost 500 freeze/thaw cycles each year that cause concrete and asphalt roads and bridges to break down and deteriorate very rapidly, has one of the highest per capita rates of use of concrete in the US. The damage caused by these

frequent freeze/ thaw events is further compounded by the impact from the regular application on the roads, of salt and other corrosive de-icing chemicals, as well as from the use of snow ploughs, snow chains and tyre studs, to minimise the risk of accidents on the roads.

- Relevantly, EdenCrete® is currently being trialled in a major CDOT trial at the Vail Pass in the Rocky Mountains in Colorado on the I-25 that was started in May 2021 to compare the comparative performance of standard concrete, high silica fume concrete and EdenCrete® concrete.
- After the first 12 months of this 3-year long CDOT trial, EdenCrete® is already demonstrating significantly superior performance, and reduced impact from all these causes. These significantly greater improvements being demonstrated by the inclusion of EdenCrete® in the concrete in the CDOT Vail Pass trial, along with the results that are expected to be achieved in the forthcoming Clinton County project in lowa, could be a spring-board for broad scale future use of EdenCrete® in lowa's infrastructure sector.

#### **US Infrastructure in General**

## Highways, Roads, and Bridges

- o These markets continue to grow with regular, repeat work in:
  - Georgia (for GDOT projects),
  - Colorado (for CDOT projects)
- New markets emerging or being targeted with DOTs in a number of states including
  - lowa
  - Texas
  - Minnesota
  - Louisiana
  - Wisconsin
  - Connecticut
  - New Jersey
  - North Carolina
  - Missouri
  - Illinois

## Airports

Following the success over several years at Denver International Airport with replacement of worn concrete panels in the apron for the United Airlines maintenance hangar, EdenCrete® is targeting to expand its market penetration into other airports (both domestic and military) for a wide range of applications.

## Ports, Marine and Coastal Applications

- Following the success achieved over several years at the Port of Savannah with the Georgia Port Authority, and more recently with the Port of Brisbane in Australia, Eden is targeting expansion into the broader port, marine and coastal markets.
- Highly encouraging results from a recent longer-term trial comparing the ability of each of EdenCrete®, EdenCrete®Pz and EdenCrete®Pz7 to reduce the permeation of salt into concrete (one of the major challenges faced by concrete that is placed in or near salt water), EdenCrete® Pz offers the best performance and was able to deliver a relatively low cost for the benefit s provided.
- This market offers potentially large growth, particularly as a result of the increasing sea levels around the world.

## LOW CO<sub>2</sub> CONCRETE FOR ALL APPLICATIONS

The EdenCrete® Pz range of admixtures was developed by Eden to enable concrete to be mixed
using significantly increased percentages of ultra-low CO<sub>2</sub> footprint pozzolans in substitution for
a corresponding reduction in the amount of high CO<sub>2</sub> footprint Ordinary Portland Cement.

- The EdenCrete® Pz range of admixtures is currently being trialled in the USA, and the anticipated positive outcome from these trials looms as very important factor in the anticipated steep increase in US sales of EdenCrete® over the coming years.
- The performance of the EdenCrete® Pz range of admixtures is the primary driver for the significant, emerging sales growth of EdenCrete® admixtures in India and Indonesia, both of which are very low-cost markets, and the same factors that have enabled these products to be commercially attractive in those low-cost countries, are considered likely to be even more attractive in the US where the cost of OPC is often double the price in India and Indonesia.
- The US currently operates a significant number of coal-fired power stations that will continue to produce for the foreseeable future at least, fly ash, a pozzolan material that is highly suitable for use as a cement when uses with EdenCrete®Pz. There are also significant existing US stock piles of fly ash, bottom ash and pond ash, that apart from being suitable for use in concrete, are also significant environmental hazards.
- The demonstrated potential for the EdenCrete® Pz range of admixtures to enable a high percentage of OPC (up to 50% or more) to be replaced in US concrete mixes, with a similar quantity of far lower cost, ultra-low CO₂ fly ash, bottom ash and/or pond ash, is considered likely to be of enormous importance to Eden in achieving its targeted growth in\US sales of EdenCrete® products.

## **RETAIL AND ON-LINE SALES**

#### Lowe's

## EdenCrete® being Sold in Oregon, Colorado, and On-Line across USA

- Since the end of April 2022, EdenCrete® has been available, in 16 ounce-bottles, for sale to retail customers in 14 selected Lowe's stores in Oregon.
- In July 2022, a further 17 selected Lowe's stores in Colorado also commenced selling EdenCrete<sup>®</sup>.
- Lowe's is also selling EdenCrete® on-line at lowes.com to customers across USA.
- Lowe's has a strong marketing and sales emphasis on both the whole US small medium sized professional contractors and builders' market, and to the huge entire US "do-ityourself" home improvement market, including through on-line sales.

## Launch of EdenCrete® named in Lowe's Q2 Earnings Conference Call on 17 August 2022

- The significance of EdenCrete® commencing to be sold by Lowe's is evidenced by the fact that on 17 August 2023, the Chairman/CEO of Lowe's Marvin Ellison and the Executive Vice President of Merchandising Bill Boltz, referenced EdenCrete®'s launch by name during the Lowe's Q2, 2022 Earnings Conference Call as an example of sustainable concrete admixture product they have brought into their offerings.
- Lowe's places importance on promoting new and environmentally beneficial products, and the sustainability benefits and consequential reduction in the CO₂ footprint offered by concrete incorporating EdenCrete®, is a driver of their interest in EdenCrete®.
- An audio recording of this Earnings Conference Call for Q2 2022, can be found on the lowes.com website, under the tab for "Investors" followed by "Events and Presentations" and "Past Events" (with EdenCrete® being mentioned at 12 minutes 54 seconds).

## Sales by Lowe's offers EdenCrete® access to the potentially huge US retail market

 Lowe's, which is reported to be the second largest hardware supplier in the world with over 2,000 stores across North America, offers EdenCrete® access, both through its stores and also on-line, to the potentially huge US retail market for both the professional contractors / builders' markets and also for the very large US "Do-It Yourself" market.

## CONCLUSION

The EdenCrete® market is continuing to grow with current sales for new projects, customers, and trials in the following 10 US states (and with discussions and trials with potential customers in a growing number of other US states):

- Georgia
- Colorado
- Utah
- Texas
- South Carolina
- North Carolina
- Oregon
- Tennessee
- Mississippi
- California

These current and potential customers and projects span almost the entire spectrum of the concrete market, including infrastructure (including roads and highways, bridges, ports and airports), construction (all aspects), pre-cast concrete, ready mix concrete, volumetric concrete, shotcrete and pumped concrete (with major emphasis on the swimming pool market).

Additionally, EdenCrete® has also recently entered the US retail market through Lowe's, the second largest US hardware chain in the world with over 2,000 stores in North America, now selling EdenCrete® in 31 select stores across Oregon and Colorado, and also on-line across USA, targeting small- medium sized professional contractors and builders, and also the entire US "do-it-yourself" market. Relevantly, and highlighting the potential significance of this event, Lowe's made mention of the launch of EdenCrete® in its recent Q2 2022 Earnings Conference Call.

These factors, coupled with the very significant additional potential offered across all market sectors through the use of ultra-low CO<sub>2</sub> footprint, high pozzolan cement mixes that EdenCrete® Pz enables, give Eden strong confidence that the volume and value of US sales of EdenCrete® products will grow significantly over the next 12-24 months.

# EdenCrete® Background

Eden's 100% owned EdenCrete® products are carbon-strengthened concrete additives that enhance a wide range of performance characteristics of the concrete including compressive strength, flexural strength, tensile strength, abrasion resistance, reduced permeability, increased modulus of elasticity, reduced shrinkage, collectively delivering stronger, tougher, more durable, longer lasting concrete.

EdenCrete® is also highly suited for all pumped concrete applications, including shotcrete applications, with low dosages of EdenCrete® delivering reduced friction and consequentially requiring lower pump pressures, improved workability and producing far less rebound of the shotcrete.

EdenCrete® is generally used in concrete that incorporates a high percentage of Ordinary Portland Cement (OPC or Portland cement) whilst EdenCrete® Pz is mostly used in concrete that incorporates a high percentage of pozzolans as an alternative cementitious material (including fly-ash and blast furnace slag which are each waste by-products from coal fired power stations and metal smelting respectively, thereby each being treated, as a waste by-product, as having a zero Greenhouse Gas footprint from its production process).

As a result, EdenCrete® Pz in particular has repeatedly shown it is capable of enabling the proportion of the Portland cement in the concrete to be replaced by a percentage of pozzolans with far lower Greenhouse Gas footprints, resulting in a reduction in the Greenhouse Gas footprint generated in the production of the various cementitious components used in the manufacturing of the concrete.

Both products have been repeatedly shown to be suitable for use in ready-mix concrete, pre-cast and prestressed concrete, shotcrete, pumped concrete and volumetric concrete. One of the primary target markets for EdenCrete® products is improving the performance of concrete used in the construction and maintenance of concrete roads, bridges, ports, airports, and other infrastructure, particularly where it is subject to heavy wear, freeze/thaw weather conditions, heavy snow falls, and/or high levels of added salt or de-icing chemicals.

Since 2015, EdenCrete® products have been sold in the USA and more recently also in Australia and a growing number of other countries. They have successfully and repeatedly delivered a wide range of benefits when incorporated into concrete that is used in many different applications, including low-rise, medium-rise and high-rise building construction, roads and bridges, ports/marine/coastal applications, airports, bus stations, carparks, water pipes, hardstand areas, waste transfer stations, warehouses, all shotcrete applications, stadiums, swimming pools, earth stablisation, sculptured concrete, structural concrete insulated panels, light weight building panels, and a wide range of pre-stressed and pre-cast concrete structures and products.

**Gregory H. Solomon** 

**Executive Chairman** 

This announcement was authorised by the above signatory. For further information please contact Aaron Gates on +61 8 9282 5889.