

# *eden*

Innovations that work.™



## Investor Presentation

June 2017  
EDE:ASX



*eden*

Innovations that work. EDE.ASX

# Disclaimer

## FORWARD LOOKING STATEMENTS

**This presentation includes certain forward-looking statements of Eden's management.** Forward-looking statements are statements that contemplate the happening of possible future events and are not based on historical fact. Forward-looking statements may be identified by the use of forward-looking terminology, such as "may", "shall", "could", "expect", "estimate", "anticipate", "predict", "probable", "possible", "should", "continue", or similar terms, variations of those terms or the negative of those terms. Forward-looking statements should not be read as a guarantee of future performance or results and may not be accurate indications of when or whether such performance or results will be achieved. Forward-looking statements are based on information known to Eden when those statements are made or management's good faith belief as of that time with respect to future events and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. The forward-looking statements specified in this presentation have been compiled by Eden's management on the basis of assumptions (which may or may not turn out to be accurate) made by management and considered by management to be reasonable. Eden's future operating results, however, are impossible to predict because of risks and uncertainties, and no representation, guarantee, or warranty is to be inferred from those forward-looking statements. You are cautioned not to place undue reliance on these forward-looking statements.

### **Forward-looking statements include, but are not limited to, the following:**

Statements relating to Eden's future production capacity and sales levels, and business and financial performance; Statements relating to future research and development results and regulatory approvals of Eden's products; Statements relating to Eden's competitive position; and Other statements relating to future developments that you may take into consideration. Actual results of Eden's operations may differ materially from information contained in the forward-looking statements as a result of risk factors some of which include, among other things: global economic stability, continued compliance with government regulations regarding production and use of carbon nanotubes in the U.S. or any other jurisdiction in which Eden conducts its operations; changing legislation or regulatory environments in the U.S. and any other jurisdiction in which Eden conducts its operations; credit risks and product sales affecting Eden's revenue and profitability; exposure to product liability claims; changes and new competitive products in the specialty concrete admixture industry; the level of market acceptance and demand for EdenCrete®; Eden's ability to effectively market all the product it can produce; Eden's ability to manage its growth, including implementing effective controls and procedures and attracting and retaining key management and personnel; changing interpretations of generally accepted accounting principles; the availability of capital resources, including in the form of capital markets financing opportunities; and general economic conditions.

**This presentation has been prepared as a summary only and does not contain all information relating to Eden's assets and liabilities, financial position and performance, profits and losses and prospects: it should be read in conjunction with all of the publicly available information in relation to Eden which has been released to the Australian Securities Exchange (ASX Code: EDE).**

## Capital Structure

3

<b>Issuer</b>	<b>Eden Innovations Limited</b>
<b>Symbol/ Exchange</b>	<b>EDE. ASX</b>
<b>Issued shares</b>	<b>1,261,878,071</b>
<b>Stock Price <sup>(1)</sup></b>	<b>A\$0.21</b>
<b>Market Cap <sup>(1)</sup></b>	<b>≈A\$302 million <sup>(2)</sup></b>
<b>Cash</b>	<b>≈A\$8.5 million <sup>(1)</sup></b>
<b>Debt</b>	<b>Nil</b>

1) As of 13 June 2017

2) Incl. EDEO 206m Ex @ 3c 30.9.18

**eden**

Innovations that work.  
EDE.ASX

# Board of Directors and Senior Management

4

## Board of Directors

- Greg Solomon LLB - Executive Chairman
- Richard Beresford BSc (Mech Eng), MSc (Technology and Development) FAICD, FAIE
- Guy Le Page BA, BSc(Hons), MBA, ASIA, MAusIMM
- Doug Solomon LLB (Hons), B. Juris.

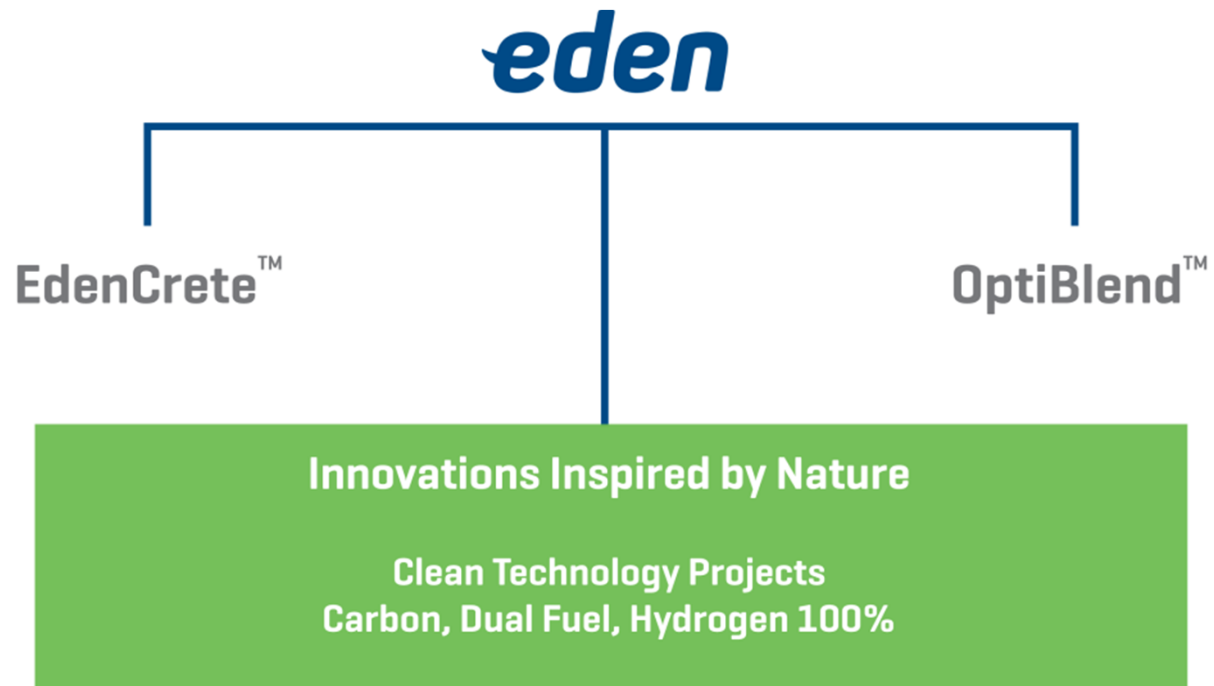
## Company Secretary/ CFO

- Aaron Gates BCom, CA, AGIA

## Senior Management

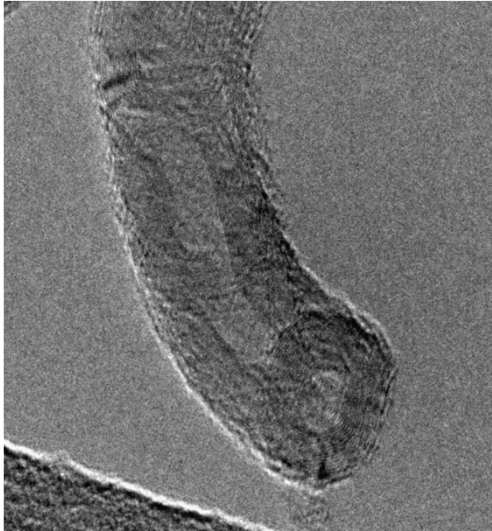
- Roger Marmaro – President - Eden Innovations LLC (US)
- Robert Reid III – Executive Business Director- EdenCrete Industries Inc. (US)

# Company Products



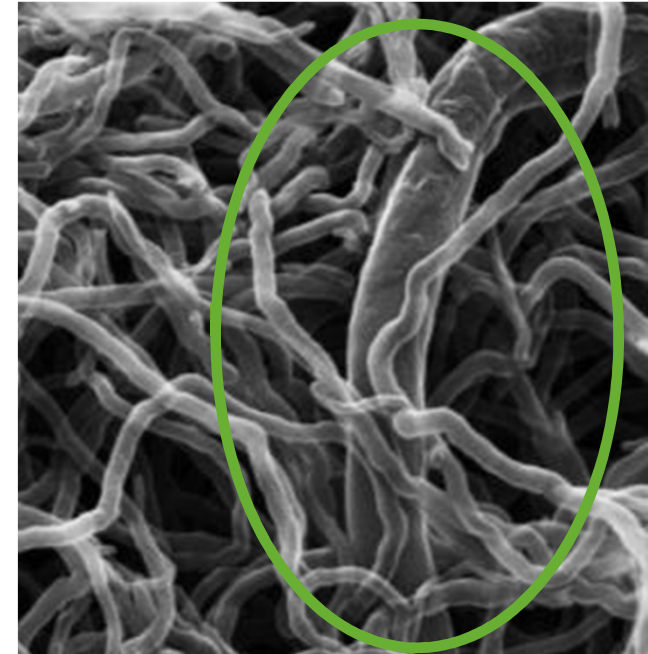
## Carbon Nanotubes(CNT) in Concrete

6



TEM image of Eden's MWCNT

- Tensile Strength: 200-300x steel
- Weight:  $\approx$  17% of steel
- Strengthens concrete, plastics



Monash University - Helium ion microscope image  
CNT in fresh cement paste

- CNT provide:
  - Nucleation points for dense, cement hydration – builds on surface of CNT
  - Ultra-strong nano-scale fibre re-enforcement
- CNT facilitate denser, tougher, stronger cement

Products	Increases Compressive Strength	Increases Split-Tensile Strength	Increases Flexural Strength	Reduces Shrinkage	Reduces Permeability	Increases Abrasion Resistance	Drawback
<b>EdenCrete™</b>	●	●	●	●	●	●	None
Fibers (PP,PVA,ACRY,LOK)		●	●	●			Reduced workability, difficult to handle
Shrinkage Reducers				●			Strength reduction, expensive, reduces workability, impacts entrained air
Steel Reinforcement	●			●			Expensive, corrosion potential, weight factor, job-site safety
Surface Hardener					●	●	Potential alkali-silica reaction
Silica Fume, Fly Ash	●				●	●	Expensive, increased water, hard to handle, worker/workplace safety
Steel Fibres	●						Reduced workability, difficult to handle, job-site safety

# CNT in Concrete Applications



## Increased Abrasion Resistance

Road & bridges surfaces  
pavements, floors



## Reduced Permeability

Roads, bridges, runways  
Coastal and marine applications  
Dams, sewer/water pipelines



## Increased Compressive and Tensile Strength

High rise buildings, bridges,  
retaining walls, pre-fabricated

## EdenCrete® -Type S Admixture ASTM C494 Results

EdenCrete™ ASTM C494 Results (Reported by Intelligent Concrete LLC)								
Test	% Increase over Reference; Dosage = 3 gpy							
	Age (Days)							
	1	3	7	28	56	90	180	365
Compressive Strength (ASTM C39)	25%	35%	39%	41%	41%	39%	38%	37%
Flexural Strength (ASTM C78)		25%	19%	32%				
Split-tensile Strength (ASTM C496)				29%	22%			
Abrasion Resistance (ASTM C779 Proc C)					62%	61%		
Length Change (ASTM C157; Shrinkage)	39% reduction							
Time of Set (ASTM C403)	Reduced: Initial Set 3 min, Final Set 4 min							
Freeze/Thaw Resistance (ASTM C666)	Reference = 88.0, EdenCrete = 96.4. 9.5% enhancement							
<b><i>Program Complete.</i></b>								
<b><i>EdenCrete™ successfully conforms to the ASTM C494 Specification for Type S chemical admixtures used in concrete.</i></b>								

## EdenCrete® Performance versus Dose (Gallons per Yard<sup>3</sup>)

10

Dosage Gallons/yd <sup>3</sup> *	Compressive	Flexural	Tensile	Abrasion Resistance	Shrinkage
1/8	15%	5%	7%	5%	6%
1/4	17%	7%	12%	13%	18%
1/2	19%	9%	16%	31%	22%
1	19%	11%	21%	33%	24%
2	28%	16%	27%	40%	27%
3	27%	26%	33%	43%	29%
4	41%	32%	46%	59%	39%

**eden**

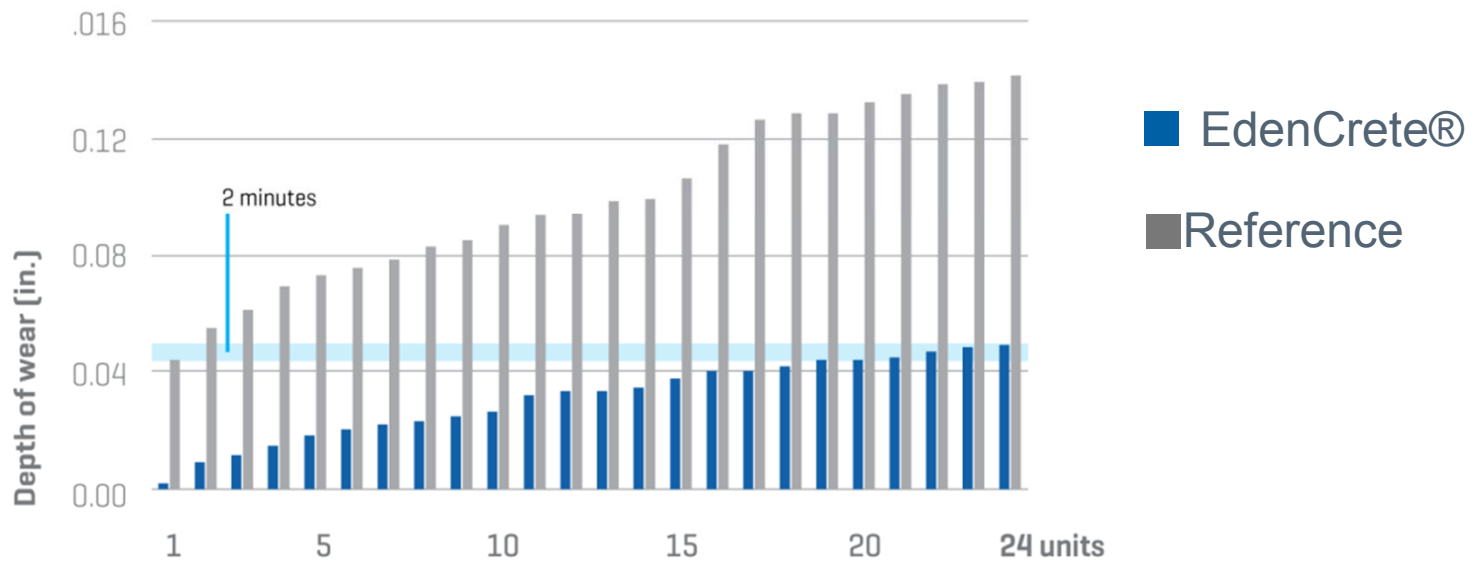
\* 1 gallon = 3.785 litres  
1 yd<sup>3</sup> = 0.7464 m<sup>3</sup>

Innovations that work.  
EDE.ASX

# EdenCrete® – Abrasion Resistance

## 59% Increase in Abrasion Resistance

ASTM C779, Proc. C



# GDOT I-20 Field Trial

August 2015

## Improvement with EdenCrete®

- Compressive Strength - 45.8% at 56 days
- Abrasion resistance - 56% at 56 days

## Outcomes

- GDOT - approval to use -24hr repair mix / B class concrete
  - First contract - February 2017
  - 2<sup>nd</sup> Field Trial - class A concrete / whitetopping March 2017



**eden**

Innovations the  
EC

## GDOT I-20 Field Trial – Update October 2016

13



EdenCrete® – No Visible Cracking



Control – Visible Crack Across Slab

**eden**

Innovations that work.  
EDE.ASX

## Anticipated Cumulative Cost Comparison\*

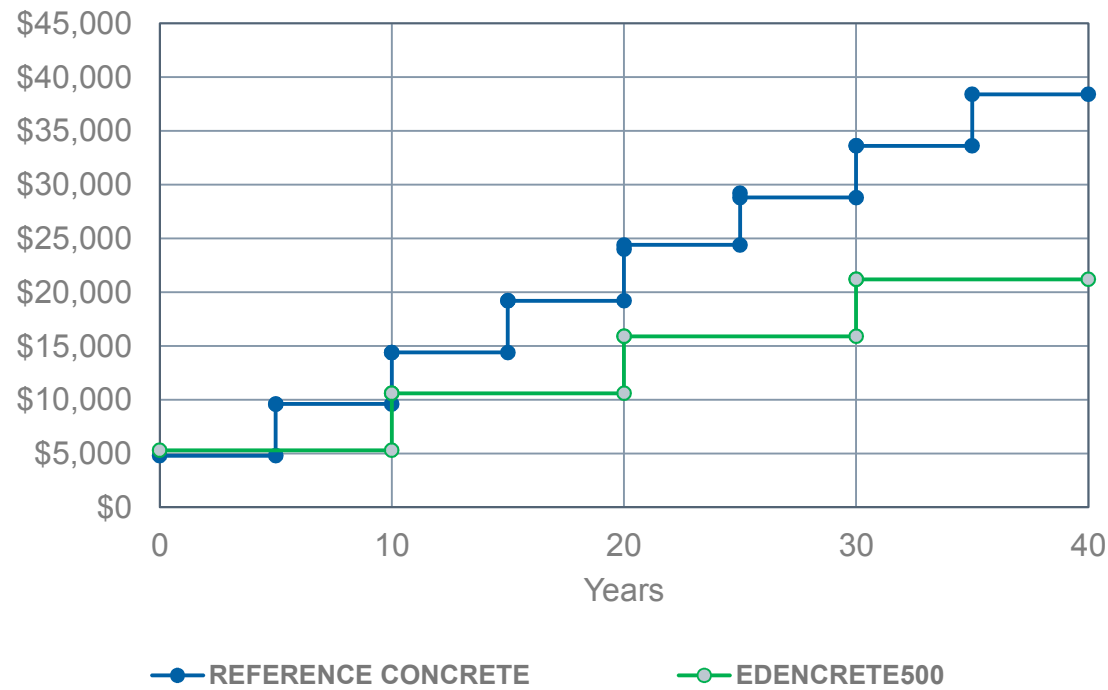
14

### Cost Benefit Analysis

- Projected Extra Cost For GDOT
  - GDOT costs /yd<sup>3</sup> ≈ 3% - 20%
  - Application Rate will vary for different targeted applications
- Anticipated Increased Service Life >100%
- Anticipated IRR < 50%+
- Using EdenCrete® , 60% more repairs achieved on the same budget in 25 yrs\*

\* Based on GDOT actual costs for I-20 Field Trial

# Anticipated Cumulative Cost Comparison\*



\* Based on GDOT actual costs for I-20 Field Trial

Innovations that work.  
EDE.ASX

## EdenCrete® – First Commercial Project

16

### Ultra High Wear /Abrasion Resistance Application



**Control Trial Slab**  
Significant cracks and  
wear after 6 months

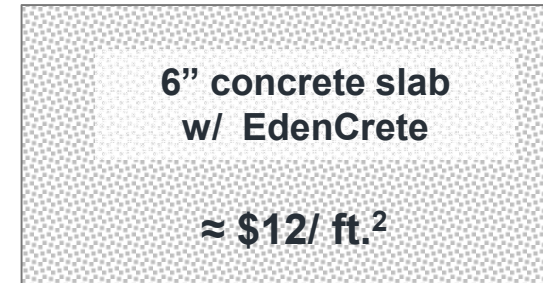
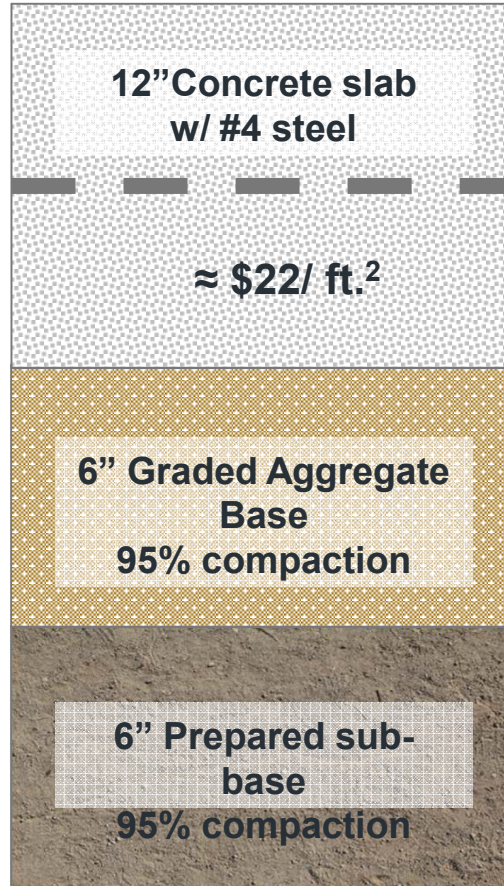
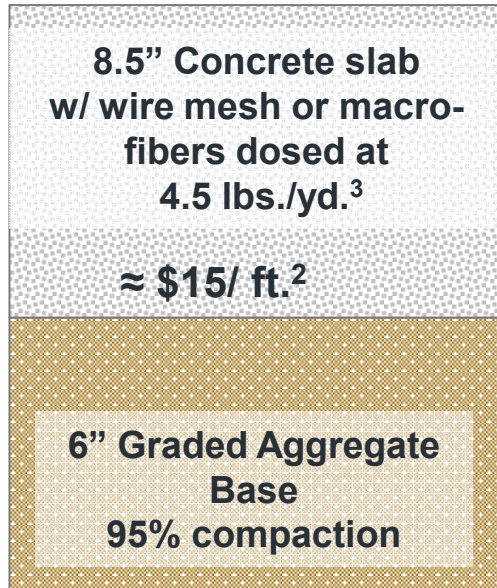


**Typical Ultra High Load**  
High loading / abrasive  
application at site



**EdenCrete Trial Slab**  
No cracks or evidence of  
wear

# EdenCrete® –Ultra High Wear /Abrasion Resistance Application



# First Commercial EdenCrete® Infrastructure Contract

## Georgia MARTA Bus Garage – Atlanta, GA

18



**eden**

Innovations that work.  
EDE.ASX

## First Commercial EdenCrete® Infrastructure Project

19

### Georgia MARTA Bus Garage

- Results – Dosage rate: 3 gallons/ yard<sup>3</sup>
  - Compressive Strength Increase - 38%
  - Split Tensile Strength Increase - 59%
  - Modulus of Elasticity Increase - 24%
  - Abrasion Resistance Increase - 47%
  - Shrinkage Reduction - 9%
- Further orders anticipated from MARTA

## EdenCrete® - MARTA – Permeability Test Results

20

### *Penetration of Chloride Ion into Concrete by Ponding*

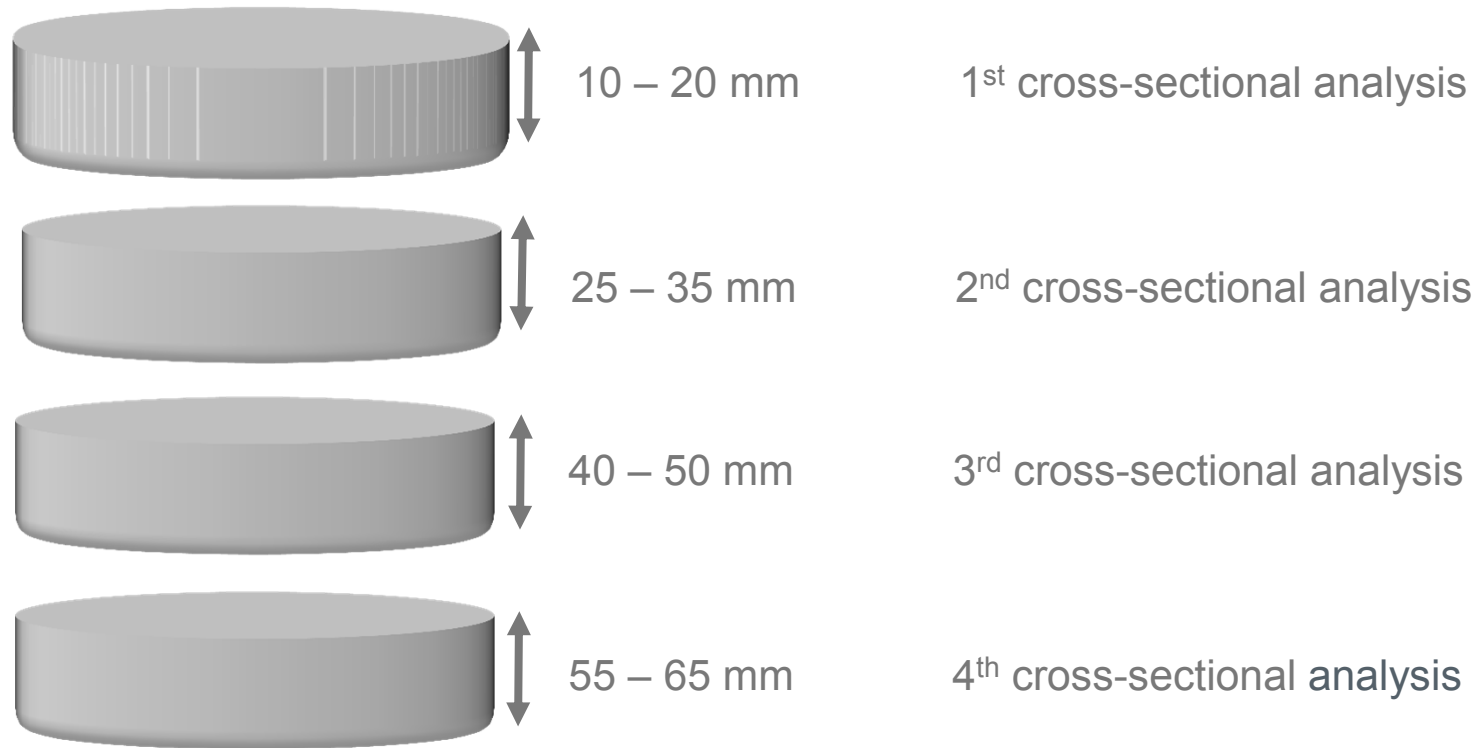
(AASHTO T 259) (ASTM C1543)

Indicative of concrete permeability:

- 3% chloride solution ponded for 90 days
- Core sample taken from slab center
- Cross-sections cut from core sample, pulverized and analyzed for % chloride weight (ASTM C1152)



# EdenCrete® - MARTA – Permeability Test Results



## EdenCrete® - MARTA – Permeability Test Results

22

Chloride Content (Wt. %)			
Depth (mm)	Control Mix - Not Poned	Control Mix - Poned	Penetrated Chloride Values
10 - 20	0.004	0.059	<b>0.055</b>
25 - 35	0.006	0.045	<b>0.039</b>
40 - 50	0.004	0.005	<b>0.001</b>
55 - 65	0.003	0.004	<b>0.001</b>
Depth (mm)	Test Mix - Not Poned	Test Mix - Poned	Penetrated Chloride Values
10 - 20	0.006	0.012	<b>0.006</b>
25 - 35	0.004	0.005	<b>0.001</b>
40 - 50	0.004	0.004	<b>0.000</b>
55 - 65	0.003	0.003	<b>0.000</b>

## U.S Marketing Update – Initial Targets

23

### Interstate Highways ( $\approx 73,000\text{km}^*$ ) / Bridges ( $\approx 605,000$ )

- Use  $\approx 40\%$  of U.S cement \*
- $\approx \$40$  billion p.a. preservation/maintenance bill \*\*
- 146,418 or 24% of bridges -structurally deficient/ functionally obsolete \*\*\*
- Annual extra costs to motorists - US\$66 billion \*\*\*
- US Surface Transportation Act 2015 – US \$225bn for highways- 5 yrs
- President Trump - \$1 trillion for US Infrastructure promised

\* Source: U.S Geological Survey Fact Sheet 2006-3127

\*\* Source: FHWA Highway Statistics 2013

\*\*\* Source: U.S DOT – DOT Fact Sheet Highlight Grim State of U.S Roads and Bridges (July 9 ,2015)

## U.S Sales and Marketing

24

### Sales Team – Coverage of All Continental U.S

- Senior Vice President of Business Development appointed
- 9 sales staff – 1 manager / 7 salespeople / 1 technical sales support

### Infrastructure and Non- Infrastructure Summary

- Pre-cast – sales underway (Texas- bridges) and trials scheduled
- Ready mix concrete – sales underway (Georgia – repairs) and new road trial underway
- Number of other trials underway, being arranged and/or scheduled with State DOTs and commercial bodies

## Georgia - Infrastructure Marketing and Sales

25

- GDOT** - \$1.1bn p.a. budget – US\$150m for maintenance
- EdenCrete® - Approved and now being specified for road repairs
  - First contract for road repairs- February 2017
  - Field trial for new road construction March 2017
- \$11 billion proposed on various infrastructure/PPP projects over 8 years
- 14,700 bridges - 2,600 structurally deficient/ functionally obsolete\*
- 200 bridge repairs scheduled over next 2 years

**MARTA** - US\$400m p.a. repairs - U.S \$2.6bn expansion - planned

\* Source: U.S DOT – DOT Fact Sheet Highlight Grim State of U.S Roads and Bridges (July 9 ,2015)

# GDOT- 24 Hour Repair Mix Specifications

January 23, 2017

26

## DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA SPECIAL PROVISION

### Section 504—Twenty-Four Hour Accelerated Strength Concrete

---

In Section 504.1.03.B2, add a note under “minimum cement cwt/cu yd”:

Note 1: When this Section 504 is used in conjunction with Section 452 (Full Depth Slab Replacement), the Contractor shall utilize EdenCrete Carbon Concrete Additive to reduce the cement factor by 15 % as per the allowances of ASTM type “S” admixtures. There shall be two mix designs prepared; one with a 2 gallon/CY dosage and one with a 4 gallon/CY dosage. Each mix design shall also be submitted to and approved by the Engineer prior to use on the project. The mix designs shall consistently achieve the minimum compressive strength (2,500 psi) at 24 hours.

*The 4 gallon/CY dosage is reserved for use at the Engineer’s discretion.*

## Georgia- Field Trial- New Road Construction – March 2017

27



# Texas - Infrastructure Marketing and Sales

28

## ➤ TxDOT

- Budget- ≈ \$28 billion over next two years
- Approval of EdenCrete® for bridge beams in 2 concrete mixes for Valley Precast Products, a major precast manufacturer
- 3 year bulk supply contract signed with Valley Precast and first US\$100,000 order received and shipped - possible US\$1m + sales per annum
- Trials underway with other GDOT approved precast manufacturers

## ➤ Texas Bridges

- 52,500 bridges – 9,988 structurally deficient/ functionally obsolete\*

\* Source: U.S DOT – DOT Fact Sheet Highlight Grim State of U.S Roads and Bridges (July 9 ,2015)

# EdenCrete® Precast Concrete – Mix Design Optimisation -Texas

AIM- Accelerate early strength to:

- Turn forms faster
- Release I-beams sooner
- Meet standards & save cost



**eden**



**Outcome:**

- Reduced 930 lbs. to 800lbs total cementitious material (75% cement/ 25% Class F Fly Ash)
- Potential for 8 hrs+ time saving
- Reduced total cost

Innovations that work.  
EDE.ASX

## Texas – First Bulk Delivery- April 2017

30



## States where EdenCrete® approved for use by DOTs

31



### States Currently Approved (in yellow):

**Arkansas, Georgia, Mississippi, North Carolina, Tennessee, Texas and Virginia.**

These States have:

- **21.5% of total US population**
- **16.1% of total US land area**
- **32,052 bridges** structurally deficient or functionally obsolete – **21.5% of total for US\***

\* DOT Fact Sheets Highlight Grim State of US Roads and Bridges – 9 July 2015

## U.S Production Scale-Up

32

Location	Est. Cost US \$	Estimated Output U.S p.a.	Estimated Value <sup>(2)</sup> U.S \$ p.a.	Start Date	Date To Complete	Anticipated Source of Funds
Colorado Stage 1	Funding Complete	108,000 galls p.a.	\$2.7m	Q1 2016	Q2 2016	Equity (completed)
Colorado Stage 2	Funding Complete	≈2.4m galls p.a.	\$50m-62m	Q2 2016	Q2 2017	Equity (completed)
Georgia Stage 1a <sup>(1,3)</sup>	≈\$37m	12.5m galls p.a.	\$312.5m	Q4 2017/ 2018 <sup>(3)</sup>	2019 <sup>(3)</sup>	Equity, Cashflow, Incentives, Debt
Georgia Stage 1b <sup>(1,3)</sup>	≈\$35m	50m galls p.a. Including Georgia Stage 1a output	\$1.25 billion	2019/2020 <sup>(3)</sup>	2020-2022 <sup>(3)</sup>	Cashflow
Georgia Stage 2	≈\$60m	100m galls p.a. Including Georgia Stages	\$2.5 billion	2020/2021 <sup>(3)</sup>	2022-2023 <sup>(3)</sup>	Cashflow

(1) Land in Georgia is sufficient for expansion up to 10 stages (i.e. 500m galls. p.a. output).

(2) Based on Current Selling Price of EdenCrete™ - US\$25/ gallon- assumes all targeted production can be achieved and sold.

(3) Eden proposes to establish its large scale global production plant in Augusta, Georgia. The State of Georgia and the Augusta Economic Development Authority have agreed to provide a combined US\$24.7 million worth of financial incentives, including an IRB-financed grant of 112 acres of suitable industrial land worth approximately \$2.8 million, construction commitments aggregating approx. \$4.2 million and with the balance of the incentives being largely by way of abatement of future taxes and levies. Eden proposes to supply from Georgia, EdenCrete™ to the entire North American market and also export to the rest of the world through the nearby Port of Savannah. The start and completion dates for the stages in the Georgia plant development will be dependent on sufficient sales of EdenCrete™ having being achieved to justify the further expansions.

Innovations that work.  
EDE.ASX

# Colorado Scale-up- Completed



## CNT in Plastics / Polymers

34

### UQ/ Eden- ARC Linkage Research Project

#### Highly Encouraging Preliminary Results with CNT in Nylon 6

- High modulus (stiffness)/outstanding ductility/ Excellent dispersion of CNT
- Superior ductility /comparable tensile strength vs super-tough commercial Nylons.
- Higher tensile strength vs comparable Nylon materials with similar ductility.
- Visual clarity/ transparency – possibly suitable for super-tough-film grade.
- Relatively low-cost processing method.
- Possible suitable future markets - automotive and packaging markets.

# Greg Solomon

Executive Chairman

Level 15, 197 St. Georges Terrace, Perth, Western Australia

Tele: +61 8 9282 5889

Email: [gsolomon@edeninnovations.com](mailto:gsolomon@edeninnovations.com)

[edeninnovations.com](http://edeninnovations.com)

**EDE.ASX**