NEWS

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Calix

HIGHLIGHTS

BOOSTER-Mag™ – APVMA REGISTRATION PROGRESS AND MORE TRIALS COMMENCING IN EUROPE

AQUA-Cal+™ CASE STUDY – POND REMEDIATION IN A FRESHWATER LAKE

ACTI-Mag™ – BIOGAS CASE STUDY ON A THAI PALM OIL PLANTATION

PROTECTA-Mag™ – OFFERING COUNCILS MORE

LEILAC UPDATE – CONSTRUCTION CONTINUING AT THE HEIDELBERGCEMENT PLANT

EDITORIAL

Welcome to Issue 26 of the Calix Newsletter.

Calix has made some great progress on a number of fronts since April.

Phil Hodgson
CEO

Our progress with BOOSTER-Mag, a safe, non-toxic and environmentally friendly agricultural spray being developed into the crop protection industry, has achieved three major milestones in its licensing progress, registration progress and latest field trial results. Our AQUA-Cal+™ water-conditioning product for aquaculture is showing excellent early results in a trial in freshwater lake restoration in Malaysia. And our ACTI-Mag™ product is also returning some excellent early results in helping a Thai palm oil mill produce more biogas for renewable electricity, and improve its environmental performance. Read about all these great advances in this newsletter.

Also featured in this newsletter is our new application technology for ACTI-Mag™, to broaden the market for sewer odour control to include hassle-free, smaller dosing systems for lower flow sewers, as well as expansion of our offering for sewer asset protection to include structural repair. And our European LEILAC project continues to move rapidly through its construction phase, with structural steel fabrication commencing and tie-ins into the HeidelbergCement Lixhe cement plant completed.

Our IPO strategy also continues to progress – we have appointed Shaw and Partners and Foster Stockbroking as Joint Lead Managers for an ASX listing attempt. If market conditions are conducive to a listing attempt at a time we choose to list, we will make available a prospectus. Anyone who is eligible, and wishes to apply for shares under the IPO will need to complete the application form that accompanies the prospectus.

Thank you again for your continued interest in Calix.

IMPORTANT MILESTONES

FOR OUR CROP PROTECTION SOLUTION

BOOSTER-Mag™

Our first MTA executed

In April 2018, Calix executed its first Material Transfer Agreement (MTA) to commence BOOSTER-Mag™ trials with a European crop protection product company. Over the European summer, BOOSTER-Mag™ will be trialled on green pepper, tomato, olives, grapes, and green beans. More MTAs are under negotiation so watch this space for further updates.

APVMA registration progress

In March we completed acute dermal and acute oral toxicology studies with the independent laboratory, vivoPharm. As a result of these tests, BOOSTER-Mag™ was determined to be safe both dermally and orally up to at least 2,000mg per kilogram. This is an important successful milestones in our APVMA registration process.

Our third year of tomato trials

BOOSTER-Mag™ has been used for the first time across a full 40-Ha farm as the base crop protection product for the entire season. As a result of this trial, farm yields were the same on average compared to other farms in the region using 'normal' expensive chemical crop protection protocols. We are already discussing next season's BOOSTER-Mag™ use based on the success documented to date.

INITIAL STEPS TOWARDS A NEW MARKET

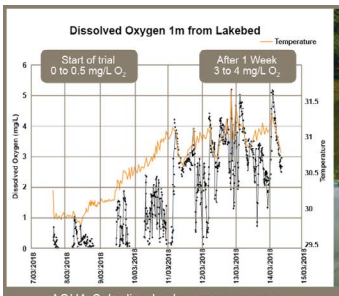
DECORATIVE FRESHWATER LAKE REMEDIATION

AQUA-Cal+™

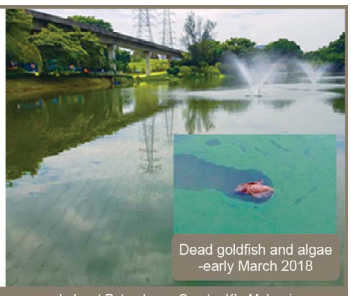
Control of toxic algae is important in ornamental lakes and treatment ponds.

Our partner in Malaysia, MahaChem, was approached to try AQUA-Cal+™ on a decorative freshwater lake to address significant issues including a strong odour, bad algae, little circulation, and a sludge build-up. A 12-month trial in a large ornamental lake in Kuala Lumpur commenced on March 7, 2018. The pond has already experienced very positive oxygen and clarity response as of May 2018.

We look forward to seeing how the lake responds at the end of the 12-month test.



AQUA-Cal+ dissolved oxygen response, 1m depth - March 18



Lake at Putra Jaya - Greater KL, Malaysia -May 2018

IMPROVING WASTEWATER TREATMENT PERFORMANCE

THROUGH TECHNICAL INNOVATION AND DIVERSIFICATION

ACTI-Mag™

New business opportunities at a Thai palm oil plantation

With the right levels of alkalinity, it's possible to use wastewater sludge as a powerful source of renewable energy. Biogas is created through a process of anaerobic digestion, which can convert organic matter such as that found in wastewater sludge into biogas which can be used to produce electricity. To do this effectively, it is essential to manage alkalinity and control the pH levels of the material.

Calix has completed a two-month trial of ACTI-Mag™ in a Thai palm oil plantation, in one of three parallel biogas plants. The trial has already yielded a 28 per cent increase in gas volume and an increase in the quality and stability of methane production to between 60 and 65 per cent of biogas. The trial is now being extended to the whole mill.

There are more than 780 such mills in South East Asia, representing a significant opportunity for Calix in the region.

Calix Business Development Manager Biogas - Michael Romer - at the Thai biogas plant.

The Charleston – A simple, cost effective, fully self–contained Magnesium Hydroxide Liquid (MHL) Storage and Dosing System

The typical MHL dosing station requires some form of mechanical agitation or mixing, a shelter and bunded area to be constructed for it and often experiences blockages due to dried product forming on tank walls and falling into the tank. The new Charleston unit, designed and engineered by Calix, addresses and overcomes these issues. The enclosure (basically a reinforced toolbox) acts as the bund. In a dedicated compartment of the enclosure is a bladder tank which collapses (rather than breathes). Preventing air from entering the tank thereby eliminates the possibility of MHL drying out in the tank, one of the most common causes of blockages. The control system is user friendly, utilises load cell technology for accurate reliable contents measurement and has SCADA communication ability to link up to the sewage pumping station (SPS) control system. There is also an option for remote cloud based monitoring system to be fitted if required.

The Charleston's also have a separate on-board MHL transfer pump for refilling of the bladder tank. Being compact and fully self-contained, the Charleston is unmatched in terms of ease of installation and commissioning. Available in two sizes, a C400 (400L capacity) and a C1000 (1000L capacity), the Charleston is the ideal addition for all small to medium SPS's, in particular those in public areas and/or without fenced enclosures.

Calix's new self-contained, small dosing application unit.

INTRODUCING NEW SERVICES

TO BETTER HELP OUR CUSTOMERS WITH THEIR SEWER MANAGEMENT PLAN

PROTECTA-Mag™

A new manhole maintenance program.

Maintaining assets, such as manholes, is a huge undertaking for local councils. While it may be considered a priority, there is not always the budget to appropriately cover inspections, protective coatings, and the administration associated with the asset maintenance. This means that, often, manholes can be left unchecked.

To address this need, Calix is introducing a new program where we maintain these assets for councils for just $1 a day per manhole for 10 years. This removes the requirement to set aside large budgets upfront for rehabilitation.

Calcium Aluminate Cement (CAC) to repair or replace failed concrete sewer assets.

Calix can now offer additional manhole and pumping station repair capability including re-grouting / profiling of these structures with Calcium Aluminate (CAC) from specialty chemical company BASF. CAC is a high strength, high corrosion-resistant resistant repair mortar for damaged concrete structures. This allows Calix to repair / rebuild / reprofile the linings of significantly corrosion damaged manholes and pumping stations prior to applying a top coat finish of PROTECTA-Mag™ for additional corrosion protection.

Calix also offers a range of additional leak repair solutions to provide a one-stop service for sewer assets to councils and Water Authorities.

R&D UPDATE: PROJECT LEILAC

CONSTRUCTION CONTINUES AT THE HEIDELBERGCEMENT PLANT

Structural steel sections being fabricated for the LEILAC pilot plant.

A recent CNN article by Thomas Page about cement and concrete, titled Can the building industry break its addiction to concrete?, mentions Project LEILAC:

"Project LEILAC (Low Emissions Intensity Lime and Cement) is a European initiative that is developing technology to capture and store the carbon dioxide produced by cement production rather than release it into the atmosphere. Fennell says carbon capture techniques, combined with alternative fuels, could help achieve an EU target of cutting emissions to 80% below levels recorded in 1990 by 2050."

To read the full article visit: https://edition.cnn.com/style/article/concrete-alternatives-future-building/index.html

◄ Here we are performing some of the tie-ins to link the Calix direct separation pilot to the host HeidelbergCement Lixhe plant in Belgium.

INTRODUCING

JOHN PHIPPS - ENGINEERING & OPERATIONS MANAGER

John joined Calix in 2013 from a background in the oil & gas and power generation industries. His career began at Tema Engineers in 1991, a specialist supplier in solids/liquids separation equipment, where he was responsible for tendering, pilot plant trials and the engineering and project execution of small modular water treatment plant projects.

During his 11 year tenure with the Linde Group, an international specialist Process Engineering and Contracting Company, John took on various roles ranging from engineering, project management, construction management and commissioning. He gained experience working on projects such as cryogenic air separation plants, petrochemical plants, Ammonia plants and LNG plants. John has worked for other high profile engineering and construction companies including Foster Wheeler, United Group, John Holland and most recently Lend Lease.

As Engineering and Operations Manager at Calix, John manages and oversees the execution of various engineering projects undertaken by Calix developing concept designs at the R&D stage through to commercial scale production plant & equipment. He also oversees the operations side of the business (Bacchus Marsh and Nerang production facilities). John holds a Bachelor of Engineering (Chem) degree (UNSW).

Outside of Calix, John enjoys spending time outdoors with his wife, two boys and their Great Dane "Bella". One of his favourite things he enjoys is sharing a meal with friends and he attributes his love of fine food and wine to his wife's influence on him!