

Director Briefing with Darren Szczepanski from AqMB Holdings

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AqMBTM

simulating water solutions

In this Director Briefing, Darren Szczepanski, Managing Director of AqMB Holdings Pty Ltd (AqMB Holdings, the Company) discusses:

- **Innovative water treatment software platform for process design, product lifecycle management and predictive compliance**
- **Vendor portal providing qualified leads for water treatment equipment vendors**
- **Company outlook and strategic focus**

Safe drinking water is becoming a scarce commodity. Innovative companies are emerging with collaborative solutions for efficient water treatment design and production. We spoke to Darren Szczepanski, the Managing Director and co-founder of AqMB Holdings Pty Ltd. AqMB is a cloud-based water treatment software platform for process design, product lifecycle management and predictive compliance. The Company recently released SupplierLink, a vendor portal providing qualified leads for water treatment equipment vendors.

EdenExchange: Thanks for speaking with us, Darren. Firstly, what brought you to a leadership position at AqMB Holdings? Can you tell us a bit about your background and experience?

Darren Szczepanski: I am a chemical engineer with design, build and consulting advisory experience within the water treatment sector. My roles ranged from piloting, process design, project engineering, QA, programming and plant commissioning to product development and engineering leadership. Prior to founding Salt Water in 2011, the precursor of AqMB Holdings, I spent five years in management roles within GE Water and Pall Corp responsible for a team of engineers across Australia and New Zealand.

Salt Water is a consultancy specialising in process design, modelling and software solutions for complex waters. Through our work here, the AqMB platform concept was materialised. AqMB Holdings was spun out of Salt Water to commercialise the software.



AqMB is a cloud-based water treatment software platform for process design, product lifecycle management (PLM) and predictive compliance.

EdenExchange: In simple terms, what does AqMB do? What triggered the idea?

Darren Szczepanski: AqMB is a cloud-based water treatment software platform for process design, product lifecycle management (PLM) and predictive compliance. The idea emerged after my years of experience designing and commissioning water treatment plants where iterations and calculations were made through independent software programs and spreadsheets. After moving into leadership roles and spending more time reviewing the work of others, I often found errors that would carry over between projects.

The magnitude of mistakes in process design can multiply project costs and impact civil, electrical and mechanical design. As a result, process engineers can be reluctant to lock in a design. During a

tender phase or design period there isn't enough time to explore every scenario or check each calculation. It's common to apply a healthy safety margin and to price risk around meeting contract performance objectives through contingencies or 'robust' design measures. Understanding how to reduce process risk rather than pricing for risk is a major opportunity.

EdenExchange: How are you different from other solutions on the market?

Darren Szczepanski: We have three key innovative products; AqMB Designer, SupplierLink and AqMB Prophet.

1. AqMB Designer is the first and, to our knowledge, the only process design and PLM software in the cloud. Engineers can collaborate with select project members for timely peer review, around the clock, regardless of location. Each project team member can access design information in a single location. Designers can initiate an internal peer review workflow to simultaneous parties. This goes against current convention of designers working in isolation, waiting for a semi-formal design review setting before presenting results and getting feedback. It engages domain experts early in a project design phase to optimise and confirm and creates more time to negotiate pricing with equipment suppliers.



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2. SupplierLink lets equipment vendors provide real-time price and product information directly to designers. We've created a virtual marketplace integrated with process design software. Vendors get reliable design data and information. Designers can request quotations and product information from registered equipment suppliers in their region. This includes proposals, data sheets, contact details and other data to select components and price a project. Information from approved quotations goes into the designer's equipment lists and capital cost template. This makes it easier for engineers to design, review, specify and price a project from any location and can reduce costs for capital projects, minimise the need to price risk into quotations, provide more certainty around process design and increase competition.
3. AqMB Prophet predicts performance and water quality for existing treatment plants. It applies Artificial Intelligence (AI) techniques and deep learning to these models to calibrate them to site-specific conditions. The simulations provide a consistent guide to the operator on what will happen over the next 24 hours of operation if they 'do nothing' and also what is

required to optimise the plant to meet compliance objectives. This is significantly different to other recent AI applications that simply process data inputs and report outputs without the support of any theoretical constraints from chemical engineering principles.

SupplierLink was recently launched to AqMB's network:

“AqMB is proud to release SupplierLink, the vendor portal providing qualified leads for water treatment equipment vendors. SupplierLink lets equipment vendors provide real-time price and product information directly to the designer, even when you've never called on them before. The vendor gets reliable design data and supporting information to minimise the need to price risk into quotations. The designer gets instant access to your latest information in one location including proposals, data sheets, contact details and other data required to get your equipment selected. Information from approved quotations goes straight into the designer's equipment lists and capital cost templates. All this on a project you may never have even known about.”

EdenExchange: What stage of development is AqMB in? How has this evolved since the Company was first launched?

Darren Szczepanski: AqMB Designer is in early-stage commercialisation and has been in development, testing and validation since early 2013. After the initial release of a minimum viable product, our development priorities were driven by our customers. We provide ways to make it easy for our customers to engage with us online for software improvement, technical support or to suggest features. AqMB Designer and SupplierLink products are now commercially stable and we will continue to release features and additional models until mid-2019.

EdenExchange: How do you generate revenue?

Darren Szczepanski: Our three products have different revenue models:

- AqMB Designer will be sold to designers at an affordable subscription price via a Software as a service (SaaS) product. Designer also works for engineering consultants, original equipment manufacturers (OEMs), engineering procurement and construction (EPCs), system integrators and technology providers. At an enterprise level, return on investment can be high for design companies and we aim to work with the organisations' designers to carry through competitively priced enterprise rollouts.
- SupplierLink connects designers with suppliers when the designer wants vendor engagement. AqMB Holdings will charge vendors a fee for each opportunity to quote on a project. Many vendors salivate at the prospect of connecting with the engineer at the exact time they are specifying equipment.



We've created a virtual marketplace integrated with process design software

- AqMB Prophet is a forecasting product sold on a time and material value proposition model through strategic partnerships with consulting firms. This way we leverage their existing client base. Most conservative water utilities usually place more trust in relationships with their advisors than they do with technology startups.

EdenExchange: *What markets does AqMB focus on? Where do you expect the greatest demand for the product to be from and how has the market response been like to date? What market have you reached so far?*

Darren Szczepanski: AqMB is a global water treatment platform. When software development is finished by early 2019, it will be applicable to almost any water/wastewater treatment application anywhere. Currently, we are working on integrating biological models and several physicochemical unit operation models to build on the more than thirty five models we've released to date. We have commercial software users in Australia, South East Asia, USA, UK and the Middle East. We expect the North American and European Union to be our biggest markets and we will put Sales Directors on the ground in San Francisco and Paris to service these markets together with an engineering software partner.

EdenExchange: *What major industry trends operate in your sector that especially stakeholders need to be aware of? How will AqMB capitalise on these trends?*

Darren Szczepanski: Safe drinking water is becoming a scarce commodity. There are increasing concerns about toxicity and emerging micro pollutants that require greater scrutiny on design and plant performance monitoring. AqMB Designer and AqMB Prophet are uniquely positioned to help reduce the risk to the general public in these applications.



Our development goals are driven around making it easy to design, review, approve, price or operate any water treatment plant from anywhere in the world.

Regulators are also legislating the use of building information modelling (BIM) for design and construction. Our software is applicable for designers looking to bridge the gap between basic design and detailed design. We encourage BIM adoption by making it easy to specify major equipment earlier in the design process and carry through this information effortlessly into detailed design. Our 'Plant 3D/Revit' integration will enable BIM for Autodesk users. For example, if an engineer changes a pump or membrane in our system, the change is reflected in all process design documentation like drawings, equipment data sheets and lists. The impact of that change on plant performance and water quality can be easily simulated.

EdenExchange: *AqMB Holdings has installed a management team. How important have these appointments been? What opportunities do they create for the Company?*

Darren Szczepanski: Although we have a great team already, we are seeking additional directors to round out the skill set of the board. These might come from US or European markets. Anyone who can add considerable value to grow our business in emerging markets especially will be very welcome.

EdenExchange: *What are some of the key achievements you are proud of at AqMB? On the other hand, what challenges do you expect to face?*

[Darren Szczepanski](#): I knew we were filling a genuine technology gap in the water sector when senior executives of the largest global players showed interest in our products without being sold to. The biggest companies are still primarily using spreadsheets for process design. So are hundreds of second and third tier companies competing on water treatment projects. We have an incredibly talented team that understands water chemistry, process engineering and software development. Keeping this team together while bootstrapping development from consulting revenue has been a difficult juggling act on time and resources but has given us the opportunity though to validate our models through 25 or so real projects.

We are now focused on finishing software development and commencing a dedicated sales and marketing campaign. A challenge has been that the water sector is slow and cautious around technology adoption. Any disruption technology is met with some skepticism. We know that engineering companies prefer buying from established software companies so finding the right global partner is key to securing enterprise sales. We consistently hear about positive referrals from users of the software. While it takes time, we expect this to filter through to widespread adoption within an organisation.

[EdenExchange](#): What is the ideal profile of the strategic partner you are looking for?

[Darren Szczepanski](#): Our ideal partner is a company with complementary products. AqMB can provide growth to their user base and visibility to their existing portfolio. We want to partner with a company that has the same existing or potential customer base whereby we can leverage their existing sales, marketing and training teams for rapid scale.

We come in at the start of the design cycle. Global engineering CAD companies are a natural fit as they can leverage off us to introduce new users to their own cloud products. Process simulation software providers are also a possibility as there are no other cloud platforms yet around water treatment. SCADA/Process Control businesses looking for a cloud-ready, predictive compliance product built on solid process engineering models are also relevant.

[EdenExchange](#): Where do you see the business in three months and a year from now? What are your strategic priorities and what needs to be done before you can scale at a significant level?

[Darren Szczepanski](#): Building and stabilising the team are my immediate priorities, firstly around sales and marketing and also tech support. In three months from now, I hope to secure Sales and Marketing Directors for Asia and North America to spearhead the hundreds of vendor registrations we need to bring SupplierLink to life.

The SupplierLink software was launched in March. Achieving vendor signup is a relatively simple task for a Sales Director with sector experience and prior exposure to the equipment suppliers. In June, we aim to release our Plant 3D/Revit integration which will enable BIM for Autodesk users. We have many other development features in the works over the next year which will make the software even more applicable to conventional wastewater and biological applications. Our development goals are driven around making it easy to design, review, approve, price or operate any water treatment plant from anywhere in the world.

[EdenExchange](#): Thank you.

For more information about AqMB Holdings Pty Ltd, please visit [the Company's page on the Funding Strategies website](#) (log-in required, joining is free). Alternatively, please contact Dr Mark Rainbird and his team by phone: +61 7 3160 2840 or email: brisbane@fundingstrategies.com.au.

The logo for Funding Strategies, featuring the words "Funding" and "Strategies" stacked vertically in a bold, blue, sans-serif font. The "Funding" text is slightly larger and more prominent than the "Strategies" text.

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