1984 – 2014

30
YEARS

Celebrating 30 Years of Quality Engineering Software Tools

spectraqest

spectraqest®

CELEBRATING 30 YEARS OF QUALITY ENGINEERING SOFTWARE TOOLS

THE BEGINNING

A NEW SOFTWARE COMPANY IS BORN ALONGSIDE PERSONAL COMPUTING

Three decades ago, at a time when personal computing was still at its infancy, an innovative and visionary software company was created. In January 1984 Dr Manfred Sautner established **Spectra Systems**, which would later become **Spectra QEST**, less than a year after immigrating to Australia from Germany with his wife Ursula and two young children.

Manfred had gained significant experience in concrete related experimental research, involving extensive use of computers, at the University of Stuttgart, where he completed his PhD. This experience was the foundation upon which he built the company. The initial focus of the company was on providing solutions using Spectra data loggers (which were the inspiration for the company name) imported from the United Kingdom.

Amongst Spectra Systems' first projects was interfacing an old hydraulic Amsler concrete testing machine to a database to aid in testing concrete cylinders for a large independent Sydney based testing laboratory.

Manfred presented the system he created through this project at a National Association of Testing Authorities (NATA) conference and the Sydney Technical Manager of one of the three largest concrete producers in Australia commissioned Spectra Systems to expand the product to cater for concrete quality control, initially for their Sydney based operations and later for all of their major operations nationally. The resulting **CACTP** (Computer Aided Concrete Testing Package) was released in 1986. This innovative product dominated the life of the new company for the rest of the eighties, as it became the leading system for concrete testing in Australia.

In 1989 Dirk Janek joined the company as a software developer. He soon took on additional responsibilities in the area of product design and deployment and since 1998 has been one of the company's Directors.

Many long-term relationships were formed during the eighties. Indeed the very first customer that commissioned the interfacing of the Amsler machine to a database continues to be a Spectra QEST customer today.

Also in January of 1984, Apple Computer's Steve Jobs introduced the Apple Macintosh, considered to be the first commercially successful computer to use a Graphical User Interface.

IBM entered the PC business two and a half years earlier, but Cisco and DELL were yet to be formed, and Facebook founder Mark Zuckerberg had not yet been born!
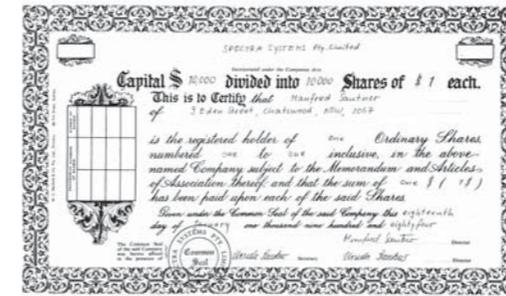
Share number one in the original company share register. The share is dated 18th January 1984.

Spectra Systems' first computer.

One of Spectra Systems' early computers.

THE BEGINNING

BEFORE THE INFORMATION SUPER HIGHWAY

In the late 1980s and early 1990s Spectra Systems had to support clients' sites throughout the nation. The internet was not yet available and modems were very slow. Manfred used a campervan to travel around Australia, starting in Melbourne, then Sydney, Brisbane and on occasions going all the way to far north Queensland. During the day, meetings and training for the system's new features took place. Systems upgrades were conducted after the laboratory staff left for the day and continued well into the early hours of the morning. When Manfred was too tired he climbed into the van, which was parked on the laboratory premises, and slept for a few hours, before being woken by laboratory staff in the morning, having breakfast and a shower in the laboratory and continuing with the work.

The campervan used by Manfred.

At least one CACTP system still survives today, serving a small concrete manufacturer on the New South Wales coast, proof of the longevity of the company's products. The software cannot be supported any longer, because no one at Spectra QEST knows how that system works – let alone how to service it – and yet it is still going...

Dr Manfred Sautner at a conference in the mid 1980s.

TESTRITE   Pioneer   CONCRITE

A selection of customers Spectra QEST began servicing during this time.

MATURING IN THE NINETIES

THE FIRST LABORATORY INFORMATION MANAGEMENT SYSTEM

Spectra Systems released a new bigger and better system in 1992 called **QCLab**. It was the company's first Laboratory Information Management System (LIMS) and Australia's, if not the world's, first LIMS specifically designed for the Construction Materials Testing (CMT) industry. The system was built around a proprietary relational database and development suite.

A host of new features never before seen in a materials testing package were introduced. In line with the expressed needs of customers, this product was able to be used in adjacent industries to concrete; asphalt, quarry and cement testing were also supported, opening up a new, wider market. QCLab was commercially very successful and was used by most major construction materials producers in Australia.

Using the toolset already developed for the QCLab system, in 1994 the company designed and released **QCMix**, a concrete mix management system, at the request of one of Australia's major concrete producers. At a time when the Internet was still a novelty, used mainly by research institutions, Spectra Systems deployed this system nationally, centrally servicing more than 100 plants and managing concrete designs for thousands of mixes. Data was updated via modems. Spectra Systems' products were successfully interfacing to the customer's plant computers, many years before centralised management systems became the norm.

In the second half of the decade, Spectra Systems developed the **QCProject** system, for the South Australian Department of Transport.

This was once again ground breaking technology, introducing new concepts to the industry, such as electronic lot management in major road projects, full LIMS functionality at the work site, electronic exchange of information utilising the new, revolutionary 'e-mail' technology, and powerful construction quality analysis, both during and post construction.

In February 1997 Stephan Mavrakis was hired as a Support Engineer, after completing degrees in Engineering, Computer Science, and postgraduate studies in Entrepreneurship and Innovation (funded by a Commonwealth scholarship).

At around the same time, eBay was founded, while Larry Page and Sergey Brin commenced work on their 'BackRub' search engine, the precursor to Google.

Stephan Mavrakis' employment advertisement.

The main screen of QCLab for Asphalt – the last of the DOS-based QCLab products. At least one such system is still in operation, servicing the South Australian laboratory of a major, national asphalt manufacturer.

" *I have known Manfred Sautner for over 25 years and was one of the first to use his original program. The laboratory software system has always been the market leader and benchmark for others to follow. Manfred, Dirk and Stephan should be very proud of what they have achieved and the excellent staff they have at Spectra QEST.* "

Kevin Cheney.
Kevin has been involved with the concrete industry for over 35 years and is currently National Functional Manager for Concrete and Technical at Hanson.

MATURING IN THE NINETIES

THE FREEDOM & FLEXIBILITY OF SMALL BUSINESS IN AUSTRALIA

❝ *Coming from Germany, where everything was of a high quality standard technically, but where business was quite rigid and set in fixed rules, I wanted to create an enterprise that upheld the high quality which I was used to in my nearly ten years of professional experience in Germany, but at the same time utilised the freedom and flexibility which small businesses enjoyed in Australia. It was a huge challenge to deal with a different culture and language, but our customers, who sensed that Spectra Systems' aim was not to make a quick buck, but to provide a long term service to the industry, supported us tremendously.* ❞

Dr Manfred Sautner, Founder and Director (Left).

❝ *Spectra QEST's strength lies not only in our technologies, but more importantly in our ability and willingness to listen to our customers, understand their needs and deliver solutions that add value to their businesses. It is this approach that has led to long standing relationships and helped us build industry leading products. We are indebted to our customers that have contributed to our success and we look forward to continuing to work with them for many years to come.* ❞

Dirk Janek, Director (Right).
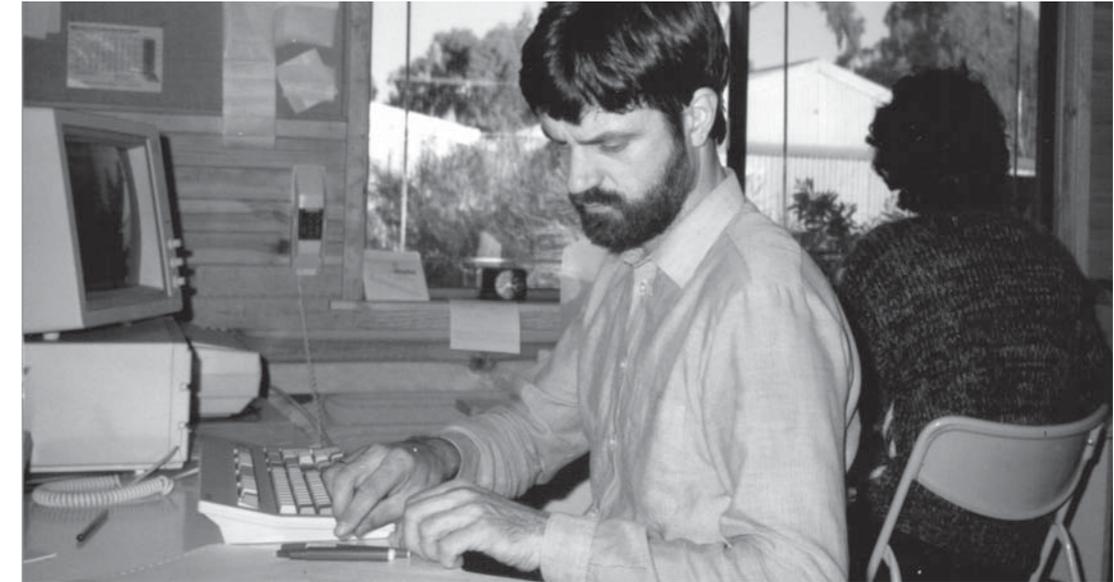
Dr Manfred Sautner, 1987.
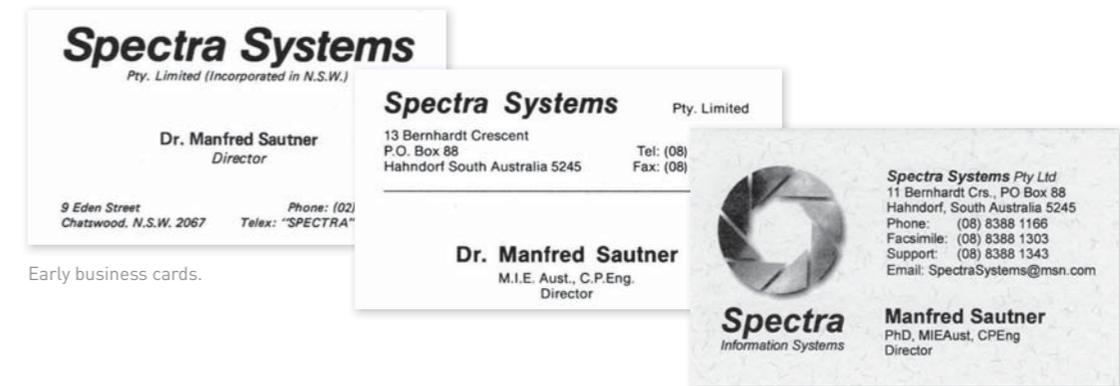
Early business cards.

A selection of customers Spectra QEST began servicing during this time.

REBRAND & REWRITE

THE "DOT COM" ERA POWERS AHEAD

In January 1998, when the company was fourteen years old, Spectra Systems was restructured, forming the new Board of Directors, consisting of Manfred Sautner, Dirk Janek and Stephan Mavrakis.

At this time Spectra Systems was rebranded Spectra Quality Engineering Software Tools (trading as **Spectra QEST**) formalising what was the company's mission from the beginning: To make high quality software tools for engineers and technicians involved in the construction materials quality industry.

The company had suffered from having invested heavily in DOS-based technologies and was too slow in responding to the new, emerging Windows platform. It was decided to scale everything back to the bare essentials, operate in a lean mode and replace the products using modern, Microsoft technologies around the Windows platform.

Manfred commenced work for one of Australia's leading construction materials producers, where over the next ten years he climbed the technical hierarchy, reaching the position of National Research and Development Manager. At the same time, he continued being actively involved with Spectra QEST at Board level and mentoring Dirk and Stephan.

Dirk took over the role of Managing Director. He had long term relationships with all customers and he was also the company's most experienced Windows developer. Hence he commenced the design of the new QEST range of products.

Stephan supported existing customers, assisted Dirk with some software coding and made sure that the company remained profitable and able to fund the development of the new systems organically. Stephan's knowledge of the older QCLab-based products allowed Dirk to concentrate on the development of the new QEST-based platform.

By 2001 Dirk had, more or less single-handedly, created the basis for the QEST suite of products.

In 2001 **QESTLab** was introduced and over time, with continual ongoing development, became the most successful product in the company's history with tens of millions of dollars in sales, unsurpassed depth in functionality and the engineering integrity to support the largest and most demanding implementations of CMT LIMS in the world.

A year later, the companion **QESTMix** was introduced. For the first time anywhere, advanced mix management concepts such as change points, virtual materials and flexible mix to product mapping were supported.

> " *QESTLab transformed our laboratory operations nearly overnight. With the centralized information management system in place, we saw immediate improvement in productivity, consistency and quality of data. Report turnaround time has been reduced from a few days to a few hours.* "
>
> *James J. Parsons, P.E.*
> *Director of Laboratory Operations, NTH Consultants, Ltd.*
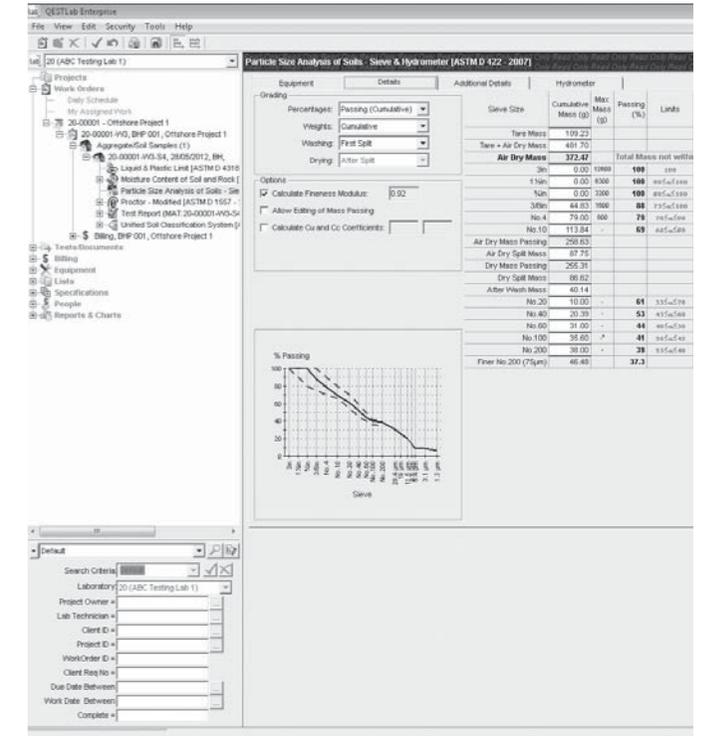
QESTLab entry screen for a typical sieve test.

REBRAND & REWRITE

DOMINANT MARKET POSITION

The company soon enjoyed a dominant market position in Australia in the construction materials industry, with two of the three major concrete manufacturers, as well as a number of smaller ones, relying on both QEST products to design their concrete mixes and test their quarry and concrete products.

To meet the demand created by the success of these two new products, Spectra QEST rapidly grew in staff numbers.

The hiring started in March 2003 with Vaiju Joshi, followed soon after by Michael Johnson. The company developed an innovative undergraduate induction programme, together with the University of Adelaide, which produced many very talented software engineers for the company. Key team members within Spectra QEST, such as Darren Fidler, Lief Martin, Michael Howland, Benny Thomas, Krzysztof Kot and David Lucas were attracted to the company through this program and remain employees to this day.

In the early 2000s Spectra QEST moved into its current premises at 132 O'Connell Street, North Adelaide. Initially the 100m² seemed like more than enough space, but ten short years later the company now occupies three times that space.

" PSI had been searching for a replacement for its 20 year old technical reporting system for almost ten years. What we found with Spectra QEST and the QESTLab solution was more than just a state of the art laboratory management and reporting system. We found a new business partner. "

Marshall Hammack, Chief Financial Officer, Professional Service Industries, Inc.

The Spectra QEST logo was inspired by one of the most common instruments used in a materials testing laboratory: a coarse sieve. A simple, yet essential tool in the laboratory, the sieve supports the particle size distribution test, common to all the disciplines Spectra QEST serves.

quality engineering software tools

" In 2004, when we chose QESTLab we thought it was the best available system. In 2013, I still have not seen anything that is as good as QESTLab was then. "

Dan Ridolfi, P.E.
Dan was responsible for materials testing in Kleinfelder's Las Vegas office and was the first client to implement QESTLab in the US market. He is currently a Quality Manager with Granite Construction.

Spectra QEST staff in 2004: Dirk Janek, Stephan Mavrakis, Vaiju Joshi, Michael Johnson, Antonia Iannunzio, Darren Fidler and Lief Martin (left to right).

A selection of customers Spectra QEST began servicing during this time.

GLOBAL EXPANSION

PROFITABLE GROWTH

By late 2005 the company was experiencing significant growth. In January 2006, Michael Sautner joined Spectra QEST, bringing with him valuable corporate experience, having worked both as a Civil Engineering Consultant for a large multinational firm, as well as having been the General Manager of a publicly owned irrigation company. Within four years, Michael joined the Board of Directors.

Recognising the limitations of the size of the Australian market, Spectra QEST broadened its focus to include North America. The first sales were secured and Spectra QEST America Corp. was incorporated in Nevada, USA in 2005. Since this time, there has been a steady increase in Spectra QEST's exports, with customers now located in North America, New Zealand, the Middle East and Europe. More than half of Spectra QEST's revenue is currently derived from export sales. As a consequence, in late 2013, the company was awarded a Business SA Export Award.

Not only did Spectra QEST expand into new geographical markets but also into new industries. In addition to construction materials producers, Spectra QEST's customers now also include engineering firms, geotechnical testing companies and government bodies.

The company's growth continued and Spectra QEST experienced a ten-fold increase both in terms of revenue and staffing during the ten years leading up to the Global Financial Crisis. The GFC challenged Spectra QEST because of major projects that were redefined or cancelled. However, the company's strong customer relationships and conservative fiscal management allowed the retention of all staff and the company emerged stronger than ever.

Two additional revolutionary products, Construction Hive and QESTField were introduced to the market in 2009 and 2010. These products extended QESTLab's capabilities to the field and allowed for seamless distribution and analysis of past and present test reports and data.

Together QESTLab, QESTField and Construction Hive make up the QEST Quality Platform, which was first used by Professional Service Industries, Inc., on the USD1.02 billion DFW Connector project in Dallas Fort Worth, Texas, the single largest highway transportation project in the United States funded under President Obama's American Recovery and Reinvestment Act. It was the first time that such ground breaking technology was used on a road project.

The technology received very positive media coverage and Professional Service Industries, Inc. was honoured by winning a Gold Medal in the 2013 American Council of Engineering Companies (ACEC) Texas Engineering Excellence Awards and an ACEC National Recognition Award for the use of QEST technologies on the DFW Connector project.

> **This system will change the company, and possibly the engineering community for the long-term.**
>
> *Professional Service Industries, Inc.*
> *ACEC Award submission.*

> **The implementation of QESTLab and Construction Hive has significantly aided our end-to-end business process. We are very pleased that we chose to implement Spectra QEST's products across all of our operations.**
>
> *Linas Vitkus, P.E., G.E.*
> *Vice President, Structures Division, Twining, Inc.*

Engineers Australia (Civil Edition), November 2011.

GLOBAL EXPANSION

A SUCCESSFUL INTERNATIONAL COMPANY

In addition, the QEST Quality Platform won the SA iAwards 2013 (Industry) and went on to win the same category nationally. The iAwards is "Australia's premier technology awards program, focused on recognising the contributions that ICT make across all sectors of the Australian and global economies" (www.iawards.com.au).

In 2013 Spectra QEST signed the third of Australia's three major concrete producers and now services all of the major and some smaller concrete manufacturers in Australia. Also in 2013 Spectra QEST commenced the largest and most technically demanding project in its 30-year history. A leading, global, advanced geotechnical engineering company commissioned Spectra QEST to adapt its technologies into a testing platform to be used globally on-shore in specialist laboratories and off-shore on ships. The first stage of this project is expected to be complete by 2015.

Foundational principles still in operation today:

Focus on the real needs of the customers and develop software to meet these needs.

Value people and relationships, both internal and external.

Never over promise, but strive to over deliver.

Be in it for the long run.

Spectra QEST's success lies in its ability to form long term relationships with its customers. We pride ourselves on the fact that we do not just provide software solutions, but understand that the successful implementation and adoption of these systems is just as important in meeting our customers' corporate goals as the systems themselves.

Michael Sautner, Director (Left).

I believe we are achieving our corporate goal to build a company that is confident and aggressive in its technological achievements, co-operative and flexible with its clients, caring, challenging and fair with its employees, and above all commercially successful in the international scene.

Stephan Mavrakis, Director (Right).

Another exciting development beginning in early 2014 is the expansion of the US subsidiary with the hiring of carefully screened and selected engineers, trained and experienced in the US market. Spectra QEST America Inc.'s new team of US-based engineers services the existing US customers and drives the company's expansion in the US market.

Spectra QEST has become a successful, international company which has always been at the forefront of innovation and has led the industry throughout its 30-year history. Many of its products have become industry defaults in Australia and have also been implemented extensively around the world. Of great value is Spectra QEST's ability to identify needs and create solutions never before available to the industries it serves.

With healthy financial indicators and strong relationships with some of the world's leading companies in its markets, Spectra QEST looks to the future with enthusiasm and anticipation. The next 30 years are likely to be filled with success fuelled by global expansion.

DFW Connector, Texas.

A selection of customers Spectra QEST began servicing during this time.

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