Experiences of a New Zealand Company Entering the European Market

Stephen Young, TimberTest

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Introduction

For a New Zealand Company intending to penetrate the diverse markets within the European Union there are significant hurdles to overcome. The maximum possible distance from the buyers, an insignificant home market and high production costs compared with Eastern Europe and Asia. Balancing this, New Zealanders are comparatively well educated, technically advanced, and by necessity think laterally to adapt to rapid changes in our home markets. Speaking English is also an important advantage in Europe. Many New Zealand companies have used these attributes to find opportunities in niche markets leading to successful export based companies. Examples are Fitzroy Yachts making luxury yachts for offshore clients and Tait Electronics producing mobile radio systems *[1] *[2]. These two companies have used niche markets with small production numbers to an advantage.

In these small technical markets quality, fast reaction to market trends and catering to individual client needs is more important than sale price. These needs are often better catered for by small focused companies. These and other New Zealand successes have shown that winning export sales is not restricted to our primary products sector and our remoteness needn't prevent access to these markets. The TimberTest business objective from the outset was to manufacture only instruments lending themselves to innovation. Competition with the mass producers of test instruments was specifically avoided by not considering development of instruments which would involve large production runs. Even with this targeting in mind it was realised from the outset that the company would need to become a major player in the small market for these items. If a significant proportion of the available clients were not won soon after market entry the turnover would not provide for reinvestment in development of new products. The company would not then be able to provide the level of support and service that is expected in Europe.

Background

Timbertest made the move into machine development, design and manufacture in 2004. From 1998 to 2004 the company had been primarily concerned with testing emission and mechanical strength of panel products for both export certification and research and development projects. This background enabled the company to identify potential markets for new test instruments. This diversification from testing laboratory to design house was a planned move and the model was based on niche manufactures in Scandinavia facing similar challenges to New Zealand companies with relatively high production costs and with a small home market. While these are hurdles to overcome, by focusing on technical products with small niche markets competition from mass manufactures is avoided leaving an opening for design and manufacture of good quality, unique instruments. In this regard laboratory equipment is a good target for innovative products. With quality control and product sales depending on the laboratory testing being correct, management normally ranks instrument reliability and quality of results higher than the sale price. Secondly the market for test equipment is small compared to other electronic markets such as domestic appliances. These two factors provide a niche which enables the focus to be on quality and reliability and not on price and production numbers.

While TimberTest has focused on issues of reliability, ease of use and accuracy, this was not sufficient differentiation to penetrate the established European market. To reduce direct competition with established companies another significant strategy has been to incorporate unique features into each product. This has been an important factor in the company success to date, with each instrument having a significant point of difference from the competition and allowing sales without competing solely on price. A solely price based strategy would, in the long term, have strangled the cash flow needed for reinvestment in development. Wherever possible the company has also committed to protecting intellectual property, increasing the opportunity for long term payback on research and development costs and ensuring ongoing market presence.

Market Entry

TimberTest entered the market with the GA4000 gas analysis machine for EN717-2. The development of this instrument was a calculated risk in that the numbers of these instruments sold in Europe prior to 2005 indicated that there would be insufficient sales to pay back the development expense. However within Europe health issues have provided pressure to decrease the use of the EN120 toluene extraction method. Additionally some research organisation and manufacturers are supporting the use of EN717-2 for production control, including use in panelboard plants***[3]**. In this climate for change TimberTest developed the GA4000 based on a predicted increase in popularity for EN717-2. While the European specification for panelboard (excepting plywood panels) has not been altered to allow reporting EN717-2 values, many correlations between EN717-2, EN120 and the reference method EN717-1 have been carried out***[4]**. These relationships allow panelboard companies to carry out production control using the EN712-2 method. The development gamble has paid off with many factories now opting use EN717-2 for production control and subsequent healthy sales of the GA4000.

The move to lowering carbon use and the associated moves to conserve energy are also a strong motivation in Europe and have been considered during the design of all instruments. Another influencing trend is the move to lowering emissions limits throughout the world – this has put pressure on instrument manufacturers to provide more accurate instruments to distinguish and categorise at the lowered emission levels. The change in resin formulation has also affected the mechanical strength properties and made the accurate assessment of mechanical properties during manufacture more critical than before. This environment has offered an ideal opening for a new manufacturer not influenced by desires to maintain production of models already on the market.

Service, Support and Communications

An obstacle for all New Zealand businesses is the remoteness from the market. New Zealand companies are well used to buying from remote suppliers but support concerns are forefront in mind when Europeans consider a New Zealand supplier. While making better looking and cleverer equipment can get initial sales, suppliers must ultimately prove their ability to support the instruments after the sale. For the high level of support expected we used a number of strategies and these have influenced all aspects of the design including the selection of suppliers of components used in the manufacture.

The internet has been used in many aspects of the support stratagy. An example is that every machine since 2007 has been sold with modem and internet access ability. This allows remote access for both support and for training. While this feature may seldom be used it provides an insurance that in case of an instrument problem, the issue can be identified and rectified remotely or failing that faulty items identified on line can be replaced.

While all companies now provide email support, it is our experience over many years of purchasing equipment from overseas that it can take many days and sometimes weeks to get a response to requests. This can give a feeling of remoteness from the supplier. To prevent our clients also having this experience TimberTest has an immediate response policy – emails are responded to within one day during the working week. A challenge that we are still meeting with the email support is the tendency by some larger companies to remove suspected spam emails with no audit on the process.

Training and Monitoring Performance.

It was realised from the outset that TimberTest would have to provide additional features to sway the buyers to purchase from a remote supplier. For the purchasers using the equipment for quality control there is a lot at stake if the results are wrong. Incorrectly low emission results from the laboratory can and does result in out of specification product being shipped. The consequences of this may be wide reaching, from plant shutdown for a period to lost sales and cancelled orders.

One advantage TimberTest had was an in depth knowledge of the test methods and the common issues that cause errors. A developing market for equipment is Quality Control laboratories in both panelboard plants and by a growing number of further manufacturers. The end users of panel products now often test incoming product, particularly for formaldehyde emission. For these plants chemical laboratory testing is a new issue. TimberTest has taken advantage of this by providing a full training package. It offers added value to the products and has reduced the number of after sales requests for help.

The training and support package starts prior to installation with information on setup and design of the laboratory. This pre-empts the development of many future problems. Advice is given to assist companies avoid formaldehyde contamination in it's testing area, and specifications for the performance of peripheral equipment are given. While now recognized by research and development laboratories, formaldehyde contamination from sources such as wood drying are not immediately obvious to companies new to the science***[4]**. In the standard package for GA4000 formaldehyde tester TimberTest now also provides a suitable good quality spectrophotometer. While this adds a further commitment to support and service, the benefits have been found to outweigh the extra cost to the installation. This move to provide information and some peripherals was mainly instigated because the setup and training package was being effected by the quality of the some of the peripheral items. In other cases the companies had spent more than necessary for equipment with features that were not needed for the test procedure. It was seen that this was an area where an added value could be given. Additionally, while New Zealand's remoteness is a disadvantage for on site training, an option of internet based training has reduced the number of site visits.

The LabCheck system is central to the support package ***[5]**. LabCheck, a web-based inter-laboratory trial system fully complying with ISO standards, was started by TimberTest in 1998. Annual subscription is provided for one year with new equipment and enables TimberTest staff to remotely monitor new laboratory performance. Through the LabCheck system the clients receive up to 5 sets of test samples per year, which are tested and the results entered into system on-line. LabCheck provides immediate benchmarking for the laboratories taking part.

Inter-laboratory trials do not always pinpoint the cause of problems though when results are outside the normal range, site visits have seldom been required as check-lists of probable causes are provided. Additional LabCheck samples can be provided after any corrective action to ensure the laboratory is back within statistical limits. LabCheck is an example of an added value and is not effected by the distance from the market.

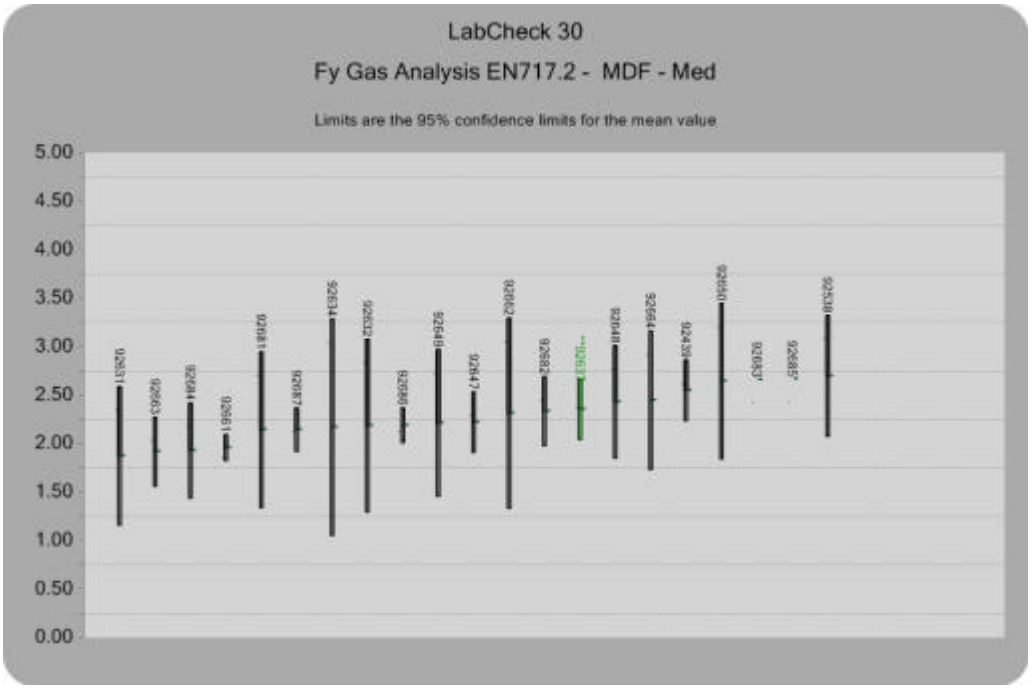

Figure 1 LabCheck Results

Electronics and Pneumatics

While every attempt is made to produce reliable equipment, when marketing electronics a breakdown strategy is needed. This is particularly so operating from New Zealand where we do not always have a technician in the market. TimberTest uses major name brands for the electronics and pneumatic systems. Whilst the cost of these are high compared to less well-known brands – it ensures parts are of consistently high quality and are available in any major city. The electronic design is traditional using separate rail mounted cards. Again this is a more expensive approach than integrated circuit boards but it allows simple fault finding by any electronic technician. This approach to the electronics and pneumatics has designed reliability into the equipment and the use of off-the-shelf systems for the electronics was flexible and avoided the long proving times required for dedicated circuit boards.

The Instruments

TimberTest entered the market with one instrument in 2004, the company now has developed a total of four instruments. Three are now on the market and one will launch in March 2009. A significant strategy has been to only develop equipment where there is potential to improved current instruments or where there is limited competition. The equipment range has been developed with a common look and feel, encouraging multiple purchases from one company.

GA5000 Gas Analysis Machine for EN717-2

The original GA4000 was based on traditional methods of carrying out the test. In this test a water jacket is used to maintain temperature at 60°C. Based on standard thermo-regulators it is easy to use and is reliable. The disadvantage is that the water and electronics are hard to combine without

reliability or safety issues and for this reason the TimberTest GA4000 has separate units for thermo-regulation and electronics. This proved very successful with almost no fault reports over three years of production.

Since production began the market for this instrument has steadily expanded with many more laboratories being set up in both Europe and in countries supplying the European markets. At the same time there has been an increasing focus on energy conservation. In the current conservation driven market there was pressure to produce an instrument using less power than the water thermo-regulation based instruments. The added sales potential and the energy conservation pressure prompted the development the GA5000 Gas Analysis Machine.

Figure 1 GA5000 Gas analysis machine for EN717-2

RC1000 Reference Emission Chamber for EN717-1

In Europe all formaldehyde emission standards are compared to the reference method EN717-1. Correlations have been produced in huge numbers by technical institutes throughout the world which enable the limit values for the factory test methods such as EN717-2 to be derived. The quality control methods like EN717-2 and the Japanese Desiccater method are easier and cheaper to use for quality control procedures than EN717-1. In the past EN717-1 chambers were only found at certain research laboratories, but the interest in formaldehyde and VOC emission has led to many new emission chambers being commissioned. TimberTest has introduced a new design for this test, the RC1000, which enables simple and accurate control of the standard conditions and sets a new standard for graphical presentation of the test parameters.

Figure 2 RC1000 Reference Chamber for EN717-1

DL1000 Desci-Lab for Japanese Desiccator Test

The Japanese desiccator test is gaining popularity not only in Asia-pacific but also in Europe. While the test may seem very simple there are many factors that must be accurately controlled if results comparable with the reference laboratories are to be produced. For example, very accurate control of the test temperature and the conditioning environment is needed *[7]. The DL1000 is a complete desiccator system in one package, providing conditioning and testing facilities for 18 samples per day, six days a week. As with all the systems provided by TimberTest, it is designed to provide consistent testing from day one – without the teething issues associated with other solutions.

BM1000 Bond-O-Matic for Internal Bond Test

In an MDF plant a primary quality control test is the internal bond (IB) strength. The move to low emission resins has put pressure on the internal bond performance of board products and there is now more focus on the quality of the test data. There is move to not only look for pass and fail for the IB test but to use the test for plant optimisation. Studies carried out by TimberTest have indicated that IB assessment can vary widely. There are not only differences within- and between-laboratories but within and between operators on one site. *[8] Many managers indicated that investment in better systems was justified and needed. To meet this need, TimberTest has developed a new IB instrument to be launched in 2009, the "Bond-o-Matic", which produces faster and more uniform IB results. The Bond-O-Matic is designed to eliminate operator effects and to provide a more accurate assessment of internal bond leading to better data on which to base production control.

Conclusion

TimberTest is small company and, in common with many companies requiring specialised skills, draws on skills within supporting companies. Instrument designers in UK and New Zealand are used in all projects, electronic assembly companies build the electronic systems to CE marking requirements. Several specialised instrument makers in Europe and New Zealand are used to build the components. These relationships provides a viable financial model with reduced risk and enables small or large manufacturing runs.

TimberTest has had four years in the market for test machines. The business model developed to overcome issues such as remoteness from the market and a need for specialised skills has been proven to work, with healthy sales and future orders into 2009. The development of several new and novel instruments over the next 24 months will ensure the ongoing success of the company

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