

Report on the National Survey of the New Zealand Protective Coatings (Abrasive Blasting & Galvanizing) Industry



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Report to EXITO on the 2008 National Survey of the New Zealand Protective Coatings (Abrasive Blasting & Galvanizing) Industry

Index	Page Number
1. Executive Summary	4
Purpose of Survey	4
Survey Scope	4
Methodology	4
Survey Response Rate	5
Significant findings and recommendations	5
2. Overview	8
Survey Parameters	8
Industry Context	9
National Qualifications Framework Context	10
3. Methodology	11
Data Collection Method	11
Initial Approach	12
Pilot-Testing the Questionnaire	12
4. Response Rate	13
5. Results of the Survey: Operators	
Overview	14
Part 1 - Demographic Data	14
Age	14
Gender	14
Ethnicity	14
Average hours worked per week	14
Reasons for choosing job in the Abrasive Blasting Sector	15
Reasons for choosing job in the Galvanizing Sector	15
Relevant experience/qualifications before entering the industry	16
Prior work	16
Years worked in this industry	16
Percentage encouraged to take on-site or supervisory roles	17
Work/retirement plans	17

Part 2 – Training	19
Training provision	19
Attitude to training	20
Benefits of training	21
Personal skills and knowledge gaps	21
Training registration, consultation, consultation, and needs match	22
Organisation of training	23
Part 3 -Training Delivery	24
Preferred training delivery methods	24
Training mix – theory/practice	24
Training support	24
Factors important in a trainer	25
Ideas for improving training	25
Training on new equipment	26
Length of time between training and skill use	27
Training review of effectiveness and refresher training	27
6. Results of the Survey: Owners/Managers/Supervisors	
Overview	28
Part 1 - Demographic Data	28
Age	28
Gender	28
Ethnicity	28
Average hours worked per week	28
Reasons for entering the industry	28
Qualifications	28
Length of time spent working in the industry	28
Current salary range	29
Age planning to leave industry	29
Age intending to retire from full-time work	29
Part 2 - Professional Development	30
Match between manager’s professional/training development needs and what the company thinks is needed	30 30
Days of training in last 12 months	30
Other development opportunities in the last 12 months	30
Development opportunities desired in the next 12 months	30

Part 3 – Recruitment and Retention	31
Entry to industry sectors	31
Occupations within each sector that are difficult to fill	31
Ways of recruiting to fill gaps	31
Attracting women to operator positions to improve gender balance	31
Actions to remedy expected skill shortages	31
Retention and loss of skilled people	32
Part 4 – Training	32
Career paths, new entrant opportunities, and induction	32
Literacy and numeracy levels	32
Up-take of training and up-skilling opportunities	34
Departure from industry of trained staff	34
Training provision	35
Part 5 – The industry in the Future	36
Industry growth expectations	36
Change expectations	36
EXITO Training	36
Part 6 – Major points from interviews with managers	38
7. Conclusions and Recommendations	40
Recruitment and retention and areas of skill shortage/skill gaps	40
Enablement of equity of access to all learners (firms already participating in the industry’s EXITO qualifications)	42
Extension of industry training to more people (firms not yet participating in the industry’s EXITO qualifications)	44
Capturing accurate information to establish a system of training responsive to current and future skill needs for the industry	45
Industry skill needs for the future	46
8. Distribution of Results	47
Appendices	
A. Operators’ Questionnaire (Abrasive Blasting)	48
B. Owners/Managers/Supervisors Questionnaire (Galvanizing)	52

1. Executive Summary

Purpose of the Survey

The Tertiary Education Commission requires Industry Training Organisations to participate in the Tertiary Education Strategy. The government requires industry to be able to predict out 10 years all of the information needed to develop and measure the field of post-school education and training so that it meets future industry needs.

EXITO is required to consult and collaborate with stakeholders so that appropriate leadership can be provided within the industry on matters related to skills and training.

In order to meet these requirements, EXITO commissioned a national survey of the Protective Coatings (PC) Industry to carry out research to identify the future training needs of the industry. The survey was conducted throughout New Zealand during the period August – September 2008.

In particular, the survey was designed to inform the upcoming PC Industry Training Plan 2008/2011 through research outcomes that addressed:

- industry skill needs for the future
- areas of skill shortage/skill gaps
- how to enable equity of access to all learners
- how to extend industry training to more people
- the capture of accurate information to establish a system of training responsive to current and future skill needs for the Industry

A summary of the findings of the survey relating to these outcomes is given below.

Survey scope

The PC industry comprises two sectors – the Abrasive Blasting sector and the Galvanizing sector. Prior to the survey commencing, the scope of the research was identified for EXITO. The report arising from this scoping was consulted during the survey. During the course of the Survey it was found that the size of the Abrasive Blasting sector had been overestimated in the initial scoping.

The survey covered both sectors of the industry.

Methodology

Draft questionnaires (one for Operators [Appendix B], and one for Owners/Managers/ Supervisors [Appendix C]) were designed and circulated to EXITO staff and industry experts for their comment. Suggestions for amendments from EXITO were incorporated. No amendments were required from industry. The questionnaires were the same for each of the Abrasive Blasting and Galvanizing sectors.

The first firms in each sector surveyed were treated as a pilot-test for the questionnaires. No amendments to the questionnaire were required after the pilot surveys.

Survey Response Rate

The design of the questionnaire made it easy for respondents to participate fully. There were very few questionnaires missing specific data. The response rate from the operators' questionnaire was outstanding in that a 100% return from participants was achieved. With the manager questionnaire we were almost as successful. Despite being extremely busy 90% of all managers completed the questionnaire. We are very grateful to them for making the time to be involved.

Significant Findings and Recommendations

The findings and recommendations arising from the survey are couched in the form of questions that EXITO should seek to address with and through the industry:

Recruitment and retention and areas of skill shortage/skill gaps

Recruitment and retention is an issue in the Abrasive Blasting sector but not so in the Galvanizing sector. Employment of women operators in both sectors is almost non-existent.

1. How could industry employers be encouraged to consider both genders when undertaking recruitment? What could be done differently to publicise Protective Coatings careers to women?
2. What additional recruitment methods may be needed to attract women to the industry?
3. What can be learned from the women who work in the industry?
4. What can be learned from the experience of Protective Coatings firms who employ women?

Pathways to scarce supervisor and management positions are blocked by long-serving incumbents.

5. How can advancement to and beyond supervisory positions within the industry be enhanced?

Career pathing and succession planning suffer from a lack of resourcing, particularly in smaller industry firms.

6. How can EXITO help the industry take advantage of enhanced career pathing and succession planning that accrues from participation in the National Framework?
7. What part could industry associations' play in helping firms take advantage of enhanced career pathing and succession planning that accrue from participation in the National Framework?

Enablement of equity of access to all learners (firms already participating in the industry's EXITO qualifications)

There are a number of interacting factors that are impacting on equity of access to industry qualifications by learners. These are size of firm, literacy levels of learners, whether English is a second language for the learner, the current industry qualifications structure, and the industry skills training context.

8. How can EXITO and the industry increase Framework participation rates of smaller firms?
9. How can learners from firms who are less able to provide effective learner management services be provided with such services?
10. Will the introduction of TEC's adult literacy and numeracy improvement policies and practical initiatives be sufficient to increase access to industry qualifications for low literacy learners and ESL learners, or will EXITO and the industry need to develop additional industry-specific initiatives? If so, what form should these initiatives take?
11. What actions can EXITO and the industry take to reduce real and perceived access barriers to industry qualifications?
12. How can industry uptake of qualifications by firms already participating in EXITO training be improved?
13. Should the industry consider introducing Limited Credit Programmes (that meet TEC's funding criteria) as a stepping-stone approach to national qualifications access?
14. How can on-site/workplace training delivery (relating to industry Framework qualifications) be fostered and improved?
15. What measures of industry uptake of qualifications should be used and what are the criteria for successful industry uptake?

Extending industry training to more people (firms not yet participating in the industry's EXITO qualifications)

A number of 'uptake-reluctance' factors need to be addressed in order for the industry to maintain or improve industry participation rates in EXITO qualifications.

16. How can small firms lacking economies of scale be assisted with participation in Framework industry qualifications? (see also question 8)
17. Does the industry have sufficient assessor resources and if not, how can they be increased? How can firms be assisted with the time-cost of candidate preparation for assessment?
18. How can the ability of firms to upgrade and support more fully resource Framework-related training delivery? How can in-house, workplace training delivery expertise, particularly at supervisor level be enhanced?

19. What are other ITOs doing in order to get very small firms to engage with the National Framework and which of these practices could EXITO employ and adapt with the Protective Coatings industry (particularly the Abrasive Blasting sector)?

Capturing accurate information to establish a system of training responsive to current and future skill needs for the Industry

Existing conduits through sector associations to industry data and information should continue to be maintained and developed. Where association representation of the sector is low (Abrasive Blasting sector), greater effort needs to be made to engage non-represented or non-participating firms in the Framework.

20. How can EXITO encourage and foster participation in the industry's Framework qualifications by firms who are not sector association members?
21. How can EXITO help sector associations market the industry's Framework qualifications?
22. How can EXITO build better links through sector associations to individual firms and develop industry data and information relevant to the industry's current and future skill needs?

Industry skill needs for the future

Both sectors are aware of impending changes in technology, processes, and industry controls (particularly environmental and climate-change related.)

23. Are processes in place that allow for assessment of the impact of change on industry skill needs, training, and qualifications?
24. If they are in place are they sufficient?
25. If they are not in place, what processes should be developed?

2. Overview

Survey parameters

During August and September 2008 the Extractive Industries Training Organisation (EXITO) a survey of the PC (Abrasive Blasting and Galvanizing) industry survey was conducted throughout New Zealand.

EXITO is expected, through strategies outlined by the Tertiary Education Commission, to take a leadership role in identifying and meeting the future skill and training needs of the New Zealand PC Industry. EXITO is tasked with lifting the quality and performance of industry skill levels by promoting and providing training which meet national industry needs.

As a result EXITO is conducting research which will provide the data needed to ensure it makes effective and efficient use of the Governments investment in tertiary education by planning and delivering quality training for the New Zealand PC Industry.

Surveys were completed at company sites in Auckland, Tauranga, Palmerston North, and Christchurch. Mailed-in survey responses were also been received from sites in these locations and from respondents based in New Plymouth and Whangarei.

The purpose of the research was to build EXITO's understanding of the PC Industries' training needs, current training provision, and demographic information related to the industry. This information will be used to:

- Identify industry skill needs for the future
- Identify areas of skill shortage/skill gaps
- Identify how to enable equity of access to learners
- Increase literacy, numeracy and language levels of learners
- Extend industry training to more people
- Increase levels of educational success
- Gather accurate information to be able to establish a system of training which responds to current and future skill needs for the Protective Coatings (Abrasive Blasting and Galvanizing) Industries.

The survey data collected will also be used for a range of planning needs including:

- Strategic planning for Protective Coatings (Abrasive Blasting and Galvanizing) Industries training
- Addressing the KPIs outlined by the Tertiary Education Strategy
- Evaluation of current EXITO services – so that services can be compared and evaluated
- Provision of ongoing targeted services
- Identification of new services which focus on identified industry skill gaps
- Resource allocation
- Operational planning

It is envisaged that EXITO will also be able to use the survey results to improve its responsiveness to the needs of the Protective Coatings (Abrasive Blasting and Galvanizing) Industries in terms of current and future skill needs. It will also contribute to the continuation of a strategic dialogue with the PC (Abrasive Blasting and Galvanizing) industries in order to:

- Establish the content of Charters, Profiles, which have clearly articulated missions and strategic visions and which match identified industry needs
- Build upon existing strengths by identifying opportunities outlined by the industry
- Increase the quality of provision of training
- Continually improve effectiveness and efficiency of delivery.

Participating firms and respondents were very interested in the purpose of the survey and there was a great willingness to be involved. Our grateful thanks and appreciation go to all those involved in the survey, in particular to:

- the managers and supervisors throughout the country who generously gave of their time and prepared their staff for the survey visit, and
- all the respondents who participated in the survey for providing your industry with the information on which to base future planning needs.

Industry Context

The Protective Coatings industry comprises two groups, the Abrasive Blasting sector and the Galvanizing sector. Generally, there is little overlap in work practice between the two sectors (for example, only two Galvanizing Association of New Zealand (GANZ) companies have listed themselves in the *Abrasive Blasting* classification of the *Yellow Pages*).

The major reasons for this is probably that galvanizing companies employ a 'hot dip' chemical process where product for galvanizing is sent by customers to the site of the galvanizer and the galvanizing coating is applied there. Abrasive Blasting firms may, however, offer a coating treatment or process as part of a portfolio of protective coating applications. Such treatment (and other processes applied by Abrasive Blasters) may be applied at either the customer's site or the firm's site.

In effect, the two sectors regard themselves as competing for some of the same work. EXITO has grouped them together for Sector Advisory Group purposes because of synergies that accrue for training and qualifications purposes.

There are, however, other similarities between the two sectors that are relevant to the survey, in particular the size of firm. There are some larger firms in each sector with numbers of employees around 15 or so. But by far the majority of Protective Coatings businesses are small, particularly those in the Abrasive Blasting sector, where firm size can be 1 – 3 people. Galvanizing firms probably need at least 8 – 10 employees for the galvanizing process to be applied effectively, but even so, such businesses are relatively 'small'.

Two related factors derive from firm size that is relevant to the survey's outcomes:

- The first factor relates to the economies of scale that derive from larger-sized firms. Relatively larger firms can 'spread the management load' and inherently have greater capacity to take on and participate in the National Framework's qualifying and training processes and activities. It is suspected that even with 15 employees, a firm will struggle to maintain and apply these processes and activities when time and money demands created by participating in them compete with those that relate more directly to the 'bottom line'. Very few firms with 1 - 3 employees will even contemplate engaging in National Framework qualifying and training processes and activities, such as the pressure on available management and business time.
- The second factor relates to ease of business establishment and amount of business 'churn' (businesses entering and leaving the industry). In the Abrasive Blasting sector, a business can establish itself relatively quickly, particularly by an operator who has some employment experience in a larger firm. In order to win larger contracts, however, an Abrasive Blasting firm needs to grow in size and have in place the quality and safety systems that the corporations outsourcing such work demand. On the other hand, it is suspected that 'churn' probably occurs in the Galvanizing sector when firms are taken over by larger firms or bought out by long-serving employees or other stakeholders.

Smaller Abrasive Blasting firms, therefore, may not be entering into or engaging with the National Qualifications Framework because their size severely limits their ability to do so. The smaller Galvanizing firm, on the other hand, may not be quite large enough to gain from the economies of scale that allow for participation in the Framework.

National Qualifications Framework Context

The types of abrasive blasting processes and protective coatings applied by Abrasive Blasters have been previously identified in functional analysis work by EXITO over seven years ago. This led to the registration of three domains (Abrasive Blasting, Blaster Coating Operations, and Protective Coating) within the Blaster Coating subfield on the National Qualifications Framework and the establishment of related qualifications.

Similarly, the type of work done by galvanizers has also been identified in a previous functional analysis by EXITO. This led to the registration of two domains (Hot Dip Galvanizing Operations and Hot Dip Galvanizing Safety) within the Hot Dip Galvanizing subfield on the National Qualifications Framework and the establishment of related qualifications.

Both sets of qualifications and unit standards for each sector have undergone review processes. This survey, therefore, relates to an industry that has already successfully delineated and structured its presence in the National Qualifications Framework; the development phase of engaging with the Framework is concluded, the industry and EXITO are now in a phase of continuing to encourage and promote increasing industry participation in the qualifications – they are looking for data and information from this survey that will help them do this.

3. Methodology

Data Collection Method

A group administered written survey was conducted using the questionnaire method because it is cost effective and delivers large stores of useful information quickly and efficiently. As well questionnaires are familiar to most people and generally do not cause apprehension. Questionnaires also reduce bias as there is uniform question presentation and no middle-person bias or influence.

Questionnaires are also best used when:

- The need is to collect the same type of information from a large number of people.
- The collectors of the information are more interested in what a group thinks as a whole than in what a particular individual has to say.

The EXITO survey needs met these 2 requirements.

The group-administered survey (i.e. questionnaire) was carried out at pre-determined company work sites. It was introduced in person and the purpose of the survey explained. Respondents' confidence was enlisted by inviting them to ask questions prior to completion of the questionnaire. This approach was important in ensuring respondents were motivated to participate. The survey forms were collected in by the contractor immediately the questionnaire had been completed.

Initial Approach

The survey contractor attended the industry Sector Advisory Group (SAG) meeting in July 2008 and met the Industry Training Advisor and PCSAG attendees. The questions needed to inform the upcoming industry training plan were also tabled at this meeting. The meeting was advised of the impending industry survey. Industry association representatives who were in attendance were asked to inform association members of the survey and its purpose.

A pre-notification letter was sent to companies/personnel to help establish the legitimacy of the survey, thereby contributing to respondents' trust in the process and to help them become fully involved.

Pilot-Testing the Survey Questionnaire

The survey questionnaires were forwarded to the Industry Training Advisor who suggested a number of minor amendments.

The survey questionnaires were then sent out in advance of industry field visits with a request for feedback on question clarity and survey comprehensiveness. A number of the intended survey sites responded, but no significant changes were suggested.

It was intended to pilot-test the survey questionnaire with one company each from the Abrasive Blasting and Galvanizing sectors, but the time-line for completion of the survey contracted because of unforeseen circumstances. It was therefore decided to continue

administering the survey immediately following on-site feedback from the first (pilot) visits.

A short introduction on the purpose of the survey was done on-site and face-to-face with the pilot-test group. The pilot-test respondents completed the survey without any special instructions. After completion they were asked for their reactions to the survey based on the following questions:

- Was the survey clear and easy to understand?
- Were you comfortable answering the questions?
- How comfortable were you with the time it took to complete?
- What other comments do you have?

The respondents' answers were noted. The resulting data identified only one question needing clarification.

4. Response Rate

Response rate is the single most important indicator of how much confidence can be placed in the results of a survey. When conducting a survey at least 10% of the survey population must be included. We have surveyed 33% of the Abrasive Blasting Association's applicator members and 33% of the Galvanizing sector's firms – enough to assure confidence in the results.

Professional surveyors find an acceptable questionnaire response rate of fifty percent or higher difficult to achieve. Given this we decided to conduct the survey on site and collect in the questionnaires immediately after completion.

We were able to achieve a 100% yield with the operator questionnaire. With the Owner/Manager/Supervisor questionnaire we were almost as successful (90%).

The final survey involved 42 people.

The survey was conducted anonymously. Respondents were informed of the purpose of collecting the information (i.e. the questionnaire) and that the use and disclosure of the information would be limited to what was necessary to fulfill the survey purpose. We did not ask for people's names. The survey responses cannot be used to identify an individual because no personal information has been used that would enable identification of the survey respondent.

This was a wise decision as it encouraged survey participants to be more open – they knew their opinions and comments were not linked to them as individuals.

The final design of the questionnaire made it easy for respondents to participate. There were few questions missing specific data. Occasionally some people did not include their age or pay. For the respondents who indicated they did not receive training, the questions relating to training were left blank.

5. Results of the Survey: Operators

Overview

32 Operators questionnaires were completed, 10 from 3 different firms in the Abrasive Blasting sector and 22 from 3 different firms in the Galvanizing sector. All respondents were in the Abrasive Blasting sector were employees of their firms (not contractors). 5 from the Galvanizing sector listed themselves as contractors.

Part 1 - Demographic Data

Age	Abrasive Blasting Sector	Galvanizing Sector
Average Age	30	34
Age range	23 - 40	20 - 55

Gender	Abrasive Blasting Sector	Galvanizing Sector
Male	100%	95%
Female	0%	5%

Ethnicity	Abrasive Blasting Sector	Galvanizing Sector
NZ European/Pakeha	30%	35%
Maori	30%	23%
Samoan	30%	18%
Tokelauan	10%	5%
Tongan	0%	14%
Indian	0%	5%

Average hours worked per week	Abrasive Blasting Sector	Galvanizing Sector
less than 40	0%	26%
40 - 49	50%	42%
51 - 60	50%	32%

Comment

The Protective Coatings industry sectors are heavily male-employee dominated. Age of workers averages above 30 years. Ethnicity is relatively evenly distributed between NZ European/Pakeha, Maori, and Samoan and other and Pacific Island ethnicities. (Survey site visits showed that Auckland firms have a higher proportion of workers of Samoan and other and Pacific Island ethnicities and that for many of these workers, English is a second language.) Abrasive blasting workers reported working, on average, longer hours per week than Galvanizing workers.

Reasons for choosing job in the Abrasive Blasting Sector

The following reasons were given by respondents for choosing the job they were in:

- *I am good at this job*
- *It's a job*
- *Friend got me job (most common reason)*
- *Need a job*
- *Learning spray painting*

Reasons for choosing job in the Galvanizing Sector

The following reasons were given by respondents for choosing the job they were in:

- *I am good at this job*
- *It's a job*
- *Friend got me job*
- *Need a job (most common reason)*
- *First job after school*

Relevant experience/qualifications before entering the industry	Abrasive Blasting Sector	Galvanizing Sector
Yes	60%	45%
No	40%	55%

	Abrasive Blasting Sector	Galvanizing Sector
Prior work	Yes – 63%	Yes – 66%
Types of prior work	<ul style="list-style-type: none"> • Farming • Panel Beating • Sales, swimming pool • Tasman Pulp/Paper mill - Kinleith 	<ul style="list-style-type: none"> • Meat works • Retail • Trucking • Engineering • Council worker • Store man • Plastic Industries • Air Con Engineering • Welding
Worked in other Abrasive Blasting or Galvanizing companies	Yes – 50%	Yes – 27%

Years worked in this industry	Abrasive Blasting Sector	Galvanizing Sector
Average no. of years	6	11
Range	4 months – 16 years	2 months – 27 years

Percentage encouraged to take on-site or supervisory roles	Abrasive Blasting Sector	Galvanizing Sector
Yes	100% (leading hand or supervisor)	50% (leading hand or foreman)
No	0%	50%

Comment

About half the workers in each sector reported having relevant experience or qualifications before entering the industry. Two-thirds reported that they had previously worked in other industries and listed a wide variety of prior types of work. Fifty percent of Abrasive Blasting workers had worked in other Abrasive Blasting firms, supporting the notion put forward earlier in this report of probable high ‘churn’ in this sector. Galvanizing sector workers had worked almost twice as long in their sector than Abrasive Blasting workers.

From this data, it would seem that workers in this industry arrive in it ‘accidentally’ rather than through planned career choices. Having gained some industry experience, however, many choose to remain in it. Given the small size of industry firms, there is limited scope for advancement, but workers (probably in the larger firms) are encouraged to take supervisory roles on.

Work/retirement plans	Abrasive Blasting Sector	Galvanizing Sector
Want to continue work in this industry	Yes – 100%	Yes – 73%
Age planning to retire from this industry	50 – 55 – 10% 60 – 20% Don’t know – 70%	50 – 55 – 9% 60 – 41% Don’t know – 50%
Intentions regarding retirement	<ul style="list-style-type: none"> • <i>I will retire when I can comfortably do so</i> • <i>Don’t know</i> • <i>Going back to Island</i> • <i>Join the NZ Police</i> 	<ul style="list-style-type: none"> • <i>I will retire when I can comfortably do so</i> • <i>Don’t know</i> • <i>Travel</i>

Comment

Desire to continue working in the industry is strong and many don't have firm plans to retire from it. Reported retirement intentions were few in number. Given the previously identified long 'shelf life' of industry workers and the intentions of many to remain working within the industry, it would seem prudent of the industry to try to maintain current levels of worker retention. Continued support of operator training and development would assist in such an aim.

Part 2 - Training

Training provision	Abrasive Blasting Sector	Galvanizing Sector
Company provides training for operator	Yes – 100%	Yes – 100%

Reasons agreed with by respondents in the Abrasive Blasting Sector as to why companies provide training

The following are the percentage of respondents who agreed with the reasons provided on the questionnaire as to why their company provides training:

- *Safety* 90%
- *Operational* 90%
- *Technical skills development* 90%
- *Supervisory skills development* 60%
- *Communication* 10%

Reasons agreed with by respondents in the Galvanizing Sector as to why companies provide training

The following are the percentage of respondents who agreed with the reasons provided on the questionnaire as to why their company provides training:

- *Safety* 91%
- *Operational* 86%
- *Technical skills development* 86%
- *Supervisory skills development* 50%
- *Communication* 5%
- *Cultural Understanding* 14%
- *Other* 14%

Comment

While 90% – 91% of respondents in both sectors saw safety as a prime reason for training provision by companies, only 5% – 10% saw communication as a reason. Given that communication is a critical ingredient in workplace safety, more training in workplace-related communication may be an area that requires further analysis and possible investment in training.

Attitude to training

Abrasive Blasting Sector

The following are the responses given with respect to attitude towards training:

- *Interested in training* 80%
- *Not interested in training* 10%
- *Required to do it* 50%
- *Encouraged to do it* 60%
- *Other* 0%

Galvanizing Sector

The following are the responses given with respect to attitude towards training:

- *Interested in training* 77%
- *Not interested in training* 0%
- *Required to do it* 50%
- *Encouraged to do it* 27%
- *Other* 0%

Benefits of Training

Abrasive Blasting Sector

The following are the responses given with respect to benefits expected from training:

- *Safer workplace* 80%
- *Better skills* 80%
- *Opportunity for advancement* 80%
- *Other* 0%

Galvanizing Sector

The following are the responses given with respect to benefits expected from training:

- *Safer workplace* 91%
- *Better skills* 91%
- *Opportunity for advancement* 64%
- *Other* 0%

Comment

Most operators report being interested in training and are well aware of benefits – both personal and workplace – that accrue from workplace training.

Personal skills and knowledge gaps

Abrasive Blasting Sector

The following were identified as personal skills and knowledge gaps:

- *Application of different paint product*
- *Supervisory role*
- *Products and QA*
- *Quoting jobs/pricing*

Galvanizing Sector

The following were identified as personal skills and knowledge gaps:

- *Good work ethic*
- *Supervisory role*
- *Management Training*
- *Health & Safety*
- *Workshops*
- *More about other galvanizing process*

Comment

A substantial number of respondents did not answer this question. While they appear not to know what their personal training needs are, it may be that EXITO job skills training is seen as filling training needs.

Training registration, consultation, and needs match

	Abrasive Blasting Sector	Galvanizing Sector
Registered for EXITO training	Yes – 30%	Yes – 82%
Can access Record of Learning	Yes – 60%	Yes – 77%
Respondent is consulted about training needs	Yes – 60%	Yes – 55%
There is a match between own assessment of training needs and what the company thinks	Yes – 50%	Yes – 68%

Organisation of training

How should training be organized to fit with work?	Abrasive Blasting Sector	Galvanizing Sector
during work hours	90%	68%
evenings	0%	14%
weekends	0%	18%
rostered days off	0%	0%

Comment

While fewer operators in the Abrasive Blasting sector are registered for EXITO training, over 50% in both sectors report being consulted about training needs and having a match between their own needs assessment and what the company thinks those needs are. This percentage could be improved with more effective learner and training management, although how this can be provided, particularly in smaller firms, is problematical.

Part 3 -Training Delivery

Preferred Training Delivery Methods

Type of training delivery that works best for respondents	Abrasive Blasting Sector	Galvanizing Sector
Classroom presentations and group work	30%	32%
On-site supervised practice	40%	64%
Videos	20%	23%
Distance learning (learning by correspondence)	10%	14%

Training mix – theory/practice

Training mix	Abrasive Blasting Sector	Galvanizing Sector
Right mix between theory and practice	Yes – 50% Not sure – 30%	Yes – 73% Not sure – 14%

Training support

Abrasive Blasting Sector

The following are the responses given with respect to support expected by respondents from managers after training:

- *Full support*
- *Plenty*
- *No support (most common response)*

Galvanizing Sector

The following are the responses given with respect to support expected by respondents from managers after training:

- *Pay rise*
- *Advancement opportunities*
- *No support (most common response)*
- *Feedback*

Factors important in a trainer

Factor	Abrasive Blasting Sector	Galvanizing Sector
Knowledgeable	90%	45%
Experienced	90%	64%
Supportive	80%	59%
Goes at the right pace	70%	45%
Patient	70%	50%
Other		9% (to be motivating)

Ideas for improving training

Abrasive Blasting

The following are respondents' ideas about how to improve the way training is delivered:

- *Video presentation*
- *Consistency*
- *Put into practice what learnt*

Galvanizing

The following are respondents' ideas about how to improve the way training is delivered:

- *more on-site training*
- *Consistency*
- *Put into practice what learnt (most common idea)*

Comment

The major issue underpinning these responses is provision of training. Both sectors, because of the work processes operators are engaged in, should be providing operators with training geared to *core industry skills*, preferably aligned to EXITO industry qualifications. Operators themselves want more on-site training. The work processes themselves dictate that this training should occur before or after a 'job' is commenced. The trainer, ideally, should be internal to the firm and probably should be a supervisor trained in on-job training delivery. Organising and resourcing of this should receive industry and EXITO attention.

Training on new equipment

Abrasive Blasting Sector

The following are the responses given with respect to training on new equipment:

- *Before it is delivered* 10%
- *As it is installed & used (commissioned) for the first time* 30%
- *When it breaks* 20%
- *Not trained on new equipment required to use*
- *Not applicable*

Galvanizing Sector

The following are the responses given with respect to training on new equipment:

- *Before it is delivered* 14%
- *As it is installed & used (commissioned) for the first time* 27%
- *When it breaks* 5%

- *Not trained on new equipment required to use* 27%
- *Not applicable* 10%

Length of time between training and skill use

Length of time after training before skill used	Abrasive Blasting Sector	Galvanizing Sector
1-5 days	60%	68%
A fortnight		
A month		
More than a month		
Other	Depends on the skills	

Training review of effectiveness and refresher training

	Abrasive Blasting Sector	Galvanizing Sector
Training is followed up with a review of its effectiveness	Yes – 30%	Yes – 45%
Receive refresher courses at regular intervals (e.g. first aid)	Yes – 30%	Yes – 45%
Refresher course attendance s is managed by employer	Yes – 40%	Yes – 45%

Comment

Improvement in the areas above will occur with better learner and training management.

6. Results of the Survey: Owners/Managers/Supervisors

Overview

Ten Owners/Managers/Supervisors questionnaires were completed, 5 each from the Abrasive Blasting and Galvanizing sectors. Two of the Abrasive Blasting respondents were current or previous industry assessors. The remainder of the respondents were 'Managers' or 'Owner/Managers'. During the administration of the survey it was found that Supervisors were better able to contribute through completing the operator's questionnaire. For this reason, the term 'managers' will be used in this section when referring to respondents.

Part 1 - Demographic Data

Age range	37 - 62
Average Age	49
Median Age	51

Gender:	
Male	100%

Ethnicity:	
NZ European/Pakeha	90%
Maori	10%

Average hours worked per week	(40-45) – (55-60)
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Reasons for entering the industry	Most common: "Interesting work challenge"
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Qualifications	All managers have at least secondary school qualifications; 60% hold tertiary qualifications
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Length of time spent working in the industry	18 – 29 years (evenly spread)
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Current salary range	Abrasive Blasting sector: 50% report \$60,000 – \$69,000; none report above \$89,999 Galvanizing sector: 75% report \$100,00 and above
Age planning to leave industry	50 - 65 years (evenly spread)
Age intending to retire from full-time work	51 - 55 years old – 20% 56 – 60 years old – 10% 61 – 65 years old – 60% nil response 10%

Comment

Managers are predominantly male and pakeha – no women and very few Māori make up this group.

The age of managers is about 50, with time spent in the industry ranging from 18 – 29 years. This represents a considerable degree of industry experience. Managers intend to leave the industry when aged between 50 - 65 years and most intend to retire from the industry at age 60 – 65 years. It is suspected that these two sets of figures will coalesce at the older end.

Many respondents have progressed to management or ownership from operator positions during their time in the industry. It would seem, however, that the opportunities are limited for operators to do this (given the size of firms, the age of managers, and the length of time they spend in the industry). Career pathing to management positions is therefore relatively ‘blocked’ and this probably gives rise to ‘spawning’ (the creation of new firms by those already employed in the industry), particularly in the Abrasive Blasting sector.

The range of hours worked per week varies greatly – from 40-45 hours per week to 55 – 60 hours per week.

Managers appear to be a relatively well-qualified group, reflecting the technical nature of the processes involved in the industry.

There is a clear differentiation between the sectors in reported salary ranges, with Abrasive Blasting managers earning considerably less on average than Galvanizing managers.

Part 2 - Professional Development

Match between manager's professional/training development needs and what the company thinks is needed	Yes –	80%
	No –	10%
	nil response	10%

Days of training in last 12 months	0 –	40%
	1 - 5 –	40%
	6 – 10 –	10%
	11 – 20 –	10%
	21 or more	0%

Other development opportunities in the last 12 months	conferences –	yes (most common)
	mentoring/coaching –	yes
	secondments –	yes
	acting in higher positions –	yes
	other	yes (training and management courses)

Development opportunities desired in the next 12 months	training –	yes
	conferences –	yes (most common)
	other	nil

Comment

Managers seem generally satisfied with the match between needs and company assessment of the same. There is a degree of spread in terms of number of days training received and the most common type of training received and desired is conference attendance.

Part 3 - Recruitment and Retention

Entry to industry sectors

Abrasive Blasting managers reported that there are not enough people entering the industry and that recruitment is a problem; Galvanizing managers reported the opposite.

A wide variety of ways of attracting people into the industry were reported: job security/pay, word of mouth, recommendations/family referrals, temporary staffing, advertising

Occupations within each sector that are difficult to fill

Abrasive Blasting managers reported that operator positions were difficult to fill and both Abrasive Blasting and Galvanizing managers reported that manager and technician positions were difficult to fill.

Ways of recruiting to fill gaps

The majority of Abrasive Blasting managers thought *all* suggested ways of recruiting to fill gaps as more feasible than not; Galvanizing managers were mixed in which ways were feasible – a majority answered ‘no’ to recruiting from other industries but ‘yes’ to recruiting people out of the labour force.

Attracting women to operator positions to improve gender balance

In relation to uneven representation of women in the workforce, Abrasive Blasting managers reported ‘don’t know’ or saw the work as ‘not applicable’ or ‘too physical’ for women; Galvanizing managers reported that it was ‘not attractive’ for women or to ‘improve factory conditions’. One manager commented:

[attracting more women as operators would be] difficult to do – would be highly capital demanding and unlikely to be able to justify on a cost basis – NZ market too small.

Actions to remedy expected skill shortages

To remedy skill shortages in the industry, Abrasive Blasting managers reported – pay better wages to operators, provide training and apprenticeships (most prevalent response), import labour and train; and liaise better with schools to show benefits of the trade; Galvanizing managers reported – provide better secondary schooling, more advertising, make jobs more attractive, and pay higher rates of remuneration.

Retention and loss of skilled people

Abrasive Blasting managers thought there is a problem retaining people in the industry; Galvanizing managers thought not.

Abrasive Blasting managers thought the industry was losing skilled and qualified people to other industries; Galvanizing managers, with one exception, thought not.

There was little agreement amongst Abrasive Blasting managers as to the reasons for loss of skilled and qualified people but 'people leaving for better careers and prospects in New Zealand and overseas' were seen as the most likely of the reasons provided in the questionnaire, plus 'low wages for doing dirty jobs'; as most Galvanizing managers don't see loss of people as a problem, there were no likely reasons given but the comment of 'dirty industry' was also made.

The one Galvanizing manager who thought there was a loss of people problem saw the major reasons for this as 'people leaving for better careers and prospect in New Zealand or overseas'.

Abrasive Blasting managers suggested the following to improve staff retention: 'pay people according to their skills improvement', 'increase the skill level and training', 'pay more money, attract people who like hard physical work and who want training', and 'provide better working conditions, facilities and equipment'; Galvanizing managers generally don't see retention as a problem, but there were suggestions of 'improve working conditions' and 'improve remuneration'.

Comment

There is a clear difference between the two sectors with respect to worker retention, with the Abrasive Blasting sector reporting this as a major problem. Both sectors saw manager and technician positions as difficult to fill. Interestingly, neither sector saw recruitment of more women to the industry as a solution to these problems. Whether the reasons put forward for not recruiting women would withstand rigorous scrutiny is debatable.

Part 4 - Training

Career paths, new entrant opportunities and induction

More managers in Abrasive Blasting (and slightly more managers in Galvanizing) thought there wasn't a clear career path for operators than thought there was. All Abrasive Blasting managers (and the majority of Galvanizing managers) thought there should be.

It was reported that traineeships, modern apprenticeships and Gateway currently exist in Abrasive Blasting and that also they should be provided and that more information on each

was needed. Galvanizing managers reported that traineeships currently exist and should be provided. Half of both Abrasive Blasting and Galvanizing managers reported not understanding the differences between each type of training opportunity.

Abrasive Blasting managers thought that new entrants would need to start with the following in a package of learning:

- *the job is a dirty, noisy, physical job*
- *basic education in work responsibilities*
- *basic maths and English*
- *the purpose of the industry, and*
- *legal requirements*

Galvanizing managers thought that new entrants would need to start with the following in a package of learning:

- *contract/employment agreement*
- *company roles, safety and land hazards instructions*
- *expected skill development*
- *desire to work, and*
- *potential earnings*

Literacy and Numeracy levels

Abrasive Blasting managers thought that new entrants are bringing the desired level of skill in core areas such as literacy and numeracy; Galvanizing managers thought they weren't.

The impact on the workplace of low literacy was thought by Abrasive Blasting managers to be on safety and MSDS issues and that it was very difficult to define techniques and variations to work types. Galvanizing managers thought the impact was on Health and Safety, longer and/or increased training, interpersonal difficulties, workers who were unable to do parts of several jobs, and a lessening of scope for horizontal job enlargement and job advancement.

The majority of Abrasive Blasting managers thought that low literacy was a problem for 1 to 5% of current staff. Galvanizing managers thought that low literacy was a problem for 17 to 50% of current staff.

The majority of Abrasive Blasting managers thought low literacy was not a major issue. One manager reported workshops, visual descriptions and job descriptions in first language as means for improving literacy and numeracy levels. Galvanizing managers reported

offering training as a means of improvement and one reported not having done much to improve levels.

Up-take of training and up-skilling opportunities

All Abrasive Blasting managers reported that the industry was suffering from a limited uptake of training and up-skilling opportunities. Only one Galvanizing manager thought their sector was suffering because of a limited uptake of training and up-skilling opportunities.

Most of Abrasive Blasting managers see out-sourcing and sub-contracting as factors in the limited up-take of training and up-skilling opportunities. Galvanizing managers don't see out-sourcing and sub-contracting as factors.

Abrasive Blasting managers were evenly split regarding seasonal work demand as a factor in the limited up-take of training and up-skilling opportunities. Galvanizing managers didn't see this as a factor.

Abrasive Blasting managers reported other factors in the limited up-take of training and up-skilling opportunities as:

- *people not wanting this type of work*
- *(lack of) promotion by industry, and*
- *staffing problems – transient, unreliable staff, and inconsistency of work.*

Galvanizing managers reported these factors as:

- *(low) literacy*
- *the advantages of education not being generally recognized*
- *lack of push by management,*
- *lack of interest by staff, and*
- *lack of promotion of opportunities by the company.*

Departure from industry of trained staff

Neither Abrasive Blasting managers nor Galvanizing managers were in agreement with other respondents about the rate of departure from the industry of those who are undergoing industry training in comparison with those not undergoing training who are leaving.

Training provision

Abrasive Blasting managers were evenly split concerning whether current training delivery meets industry expectations in terms of relevance and quality. Galvanizing managers believe it does meet these expectations.

Abrasive Blasting managers were evenly split concerning whether current training delivery meet industry needs with respect to new technology and changing skill requirements. Galvanizing managers believe it does.

Abrasive Blasting managers were evenly split concerning whether current training options provide for specialised fields within the industry. Galvanizing managers believe they do. Total training within each firm was reported by Abrasive Blasting managers as follows:

EXITO training	Non-EXITO By own staff	Non-EXITO by External staff
91-100 % 1	26-50% 2	11-25% 1
6-10% 1	11-25% 1	26-50% 1
	81-90% 1	71-80% 1
		91-100% 1

Total training within each firm was reported Galvanizing managers as follows:

EXITO training	Non-EXITO By own staff	Non-EXITO by External staff
26-50 % 1	91-100% 2	6-10% 1
51-70%1	11-25% 1	
none 1	26-50% 1	

Future intentions regarding EXITO training provision for Abrasive Blasting staff were reported as 1 'Yes' and 1 'No'. No reasons for not intending to provide this training were given. 2 Galvanizing firms reported they intended to provide EXITO staff training in the future.

Abrasive Blasting managers were evenly split as to whether there were enough trainers in the industry. Galvanizing managers thought there were not enough.

Abrasive Blasting managers' ratings for industry trainers varied over the areas they were asked to rate on, but median ratings were 3-4, where 5 is 'low'. Similar ratings were reported by Galvanizing managers.

Comment

Adoption by the industry of EXITO training and qualifications has progressed through the initial development phase and has entered a perhaps more critical phase of uptake and maintenance. It would appear that enthusiasm for buying into the qualifications has lessened a little. EXITO and the industry need to work together to address how qualifications momentum and focus can be regained.

Part 5 – The industry in the future

Industry growth expectations

Abrasive Blasting managers rated industry growth in the next 5 – 10 years as less than 5% (2) or more than 10% (1). Galvanizing managers gave these growth ratings as less than 5% (1), 6 – 10% (2), 20% (1).

Change expectations

Only ‘more contractors’ and ‘more women’ were NOT identified as changes that would impact on the Abrasive Blasting industry and its workforce over the next 5 years. Other factors identified in the Abrasive Blasting industry as impacting were – Kyoto, automation of some processes, and new ways of doing things.

Only ‘more languages in the workplace’ and ‘technology advances’ were identified as changes that would impact on the Galvanizing industry and its workforce over the next 5 years. Other factors identified in the Galvanizing industry as impacting on the workforce were – Kyoto, and environmental issues.

EXITO Training

In the Abrasive Blasting industry, EXITO received 1 ‘dissatisfied’ for responsiveness and 1 dissatisfied for understanding the customer (all other ratings were higher on all factors).

In the Galvanizing industry, no ‘dissatisfieds’ were given to EXITO and all other ratings were higher on all factors.

Other comments (both Abrasive Blasting) made on the questionnaire were:

- *‘Young people are not interested in this type of work. They can find more interesting jobs for same money’, and*

- *'All companies within this industry should be encouraged to use EXITO Training. This will increase the skill level of staff to a National Level/Standard.'*

Comment

Firms are very clear about where and what sort of change is taking place in the industry. Assessment by EXITO of the impact of changes on Framework qualifications and training content is recommended. Both sectors seem generally satisfied with EXITO's current training regime and industry support.

Part 6 – Major points from interviews with managers

- There is a problem with small firms taking on EXITO qualifications – small firms don't have the capacity that allows individual staff to be released from work for training or assessment; in the end the bottom line is affected and the incentive for the smaller firm to now invest in the training has diminished.
- Small firms can't afford to have an in-house assessor, structures are too flat and the owner/manager ends up doing everything. In the end they don't have enough hours in the day and so training and assessment, because it is not a legal-compliance function, falls off the end of the 'must-do' queue.
- There are at least two problems with externally-based assessment for industry core unit standards (the ones that relate to Abrasive Blasting and galvanizing processes) – firstly, an assessor may be seen as coming from a competitor firm and secondly, particularly for small firms, the task of preparing or helping to assemble evidence portfolios or documentation will inevitably fall back on the owner/manager or administration person (who, unlike an assessor, often hasn't been trained in why and how to do this). Again, the owner/manager will also often not have enough hours in the day to carry this out and sees it as another reason why not to 'buy-in' to the qualifications. On the other hand, there is a reluctance to see unit standard achievement being 'gifted' to candidates through a recognition of current competence regime that has low validation thresholds.
- English as second-language (ESL) and literacy and numeracy issues are not yet being catered for through current arrangements for training and assessment. (One Galvanizing firm's workforce is almost totally ESL with low literacy levels; there are currently no or few resources to bridge the gap to the qualifications for these workers.)
- There is not enough flexibility at the local level in the provision of crane and/or forklift training (one firm wanted to do such training on site but the local training provider wouldn't/couldn't; another firm wanted training away from the site but had to wait weeks/months until there were enough candidates from other firms for that to happen.)
- The low uptake of qualification enrolments by firms in both the Abrasive Blasting and Galvanizing sectors may also be related to systemic National Qualifications Framework issues – the size of the qualifications and the terminology and language used in unit standards and qualifications.
- The size of the qualifications (in terms of credits to be achieved) may be off-putting to workers who are experienced and who should be able to have their skills recognised in a relatively short period of time. (EXITO may need to look at designing and introducing Limited Credit Programmes [LCPs] that provide stepping-stone industry certificates in order to potentially overcome this problem.) LCPs might also allow greater flexibility. For example, there could be an LCP for Abrasive Blasting *blasting* operators and one for Abrasive Blasting *coating* applicators.
- The issue of terminology in unit standards is a thorny one. Where both ESL and low literacy are factors that are present in the workforce (as is the case in both the Abrasive Blasting and Galvanizing sectors), the amount of 'translation' effort required to make

unit standards and qualifications understood and ‘work’ multiplies. Resources and sector plans are needed to help make this happen.

- It was reported that the drivers for getting unit standards and qualifications developed for both the Abrasive Blasting and Galvanizing sectors were as much to do with a desire to improve health and safety at the worksite as they were to do with improving the professionalism and skill base of each sector. The units and qualifications are now on the framework and the health and safety requirements have been documented, but the uptake by firms the infrastructure and fabric to encourage and allow follow-through in the form of training and assessment provision seems under-resourced.
- The small size of each sector’s professional associations may also be working against increased uptake of qualifications. In the Galvanizing sector’s case, the association is small but represents a majority of firms. In the Abrasive Blasting sector’s case the association represents both suppliers and blasting firms and the proportion of blasting firms nationally who are members is relatively low. On the other hand, many potential member firms are *very* small (one- or two-persons) and joining a professional organisation is probably seen by them as another cost they can choose not to incur.
- Compliance with increasing environmental requirements at national and local levels were commented on by managers in both sectors. These requirements relate to:
 - treatment and/or disposal of by-products from the Protective Coating processes
 - increasing restrictions on noise, dust, and gaseous emissions from industry worksites
 - the impact (particularly in cost terms) of proposed methods and schemes to reduce and/or control carbon emissions.

7. Conclusions and Recommendations

Recommendations have been made but are not prescriptive. In addition, most recommendation topics include a list of questions to prompt and extend the thinking and options for future training.

Recruitment and retention and areas of skill shortage/skill gaps

Gender

This is an industry where it is rare to find women working as operators. The Galvanizing sector reports that there are adequate numbers of people interested in entering the industry but the Abrasive Blasting sector reports the opposite. Managers from both sectors saw women being employed as operators as something that would be 'difficult'.

Encouraging women to become Abrasive Blasting operators, though, could be one way to reduce recruitment difficulties in the Abrasive Blasting sector. There is also a range of reported benefits for any workforce that moves from a single gender population to a mixed gender population, so the Galvanizing sector should also be encouraged to embark on this path. In order for women to be actively recruited by the industry, however, reasons put forward by managers for not doing so will have to be addressed beforehand in a way that reduces these expressed concerns.

Questions to address:

- 1. How could industry employers be encouraged to consider both genders when undertaking recruitment? What could be done differently to publicise Protective Coatings careers to women?**
- 2. What additional recruitment methods may be needed to attract women to the industry?**
- 3. What can be learned from the women who work in the industry?**
- 4. What can be learned from the experience of Protective Coatings firms who employ women?**

Ethnicity

Ethnic representation in the industry operator workforce appears evenly spread (in terms of numbers) across European/Pakeha, Maori, and Samoan people. There appears to be a greater representation of Pacific Island people geographically in Auckland and upper North

Island firms. Such workforces show a corresponding increase in numbers of ESL workers. Recommendations concerning related worksite training and communication issues are made later in this section.

Age of work force and years spent working in the industry

The age of the operator workforce is relatively 'mature' at 30 – 34 years average years of age. Workers have also spent on average 6 – 11 years working in the industry. The industry would do well to tap into this experience base when seeking to institute or improve on-site and on-job training regimes (see recommendations regarding this later in this report).

Managers in the industry have an average age of nearly fifty and have worked within the industry for an average of 24 years. These factors will be creating career path blockages for industry employees to and beyond supervisor level.

Question to address:

5. How can advancement to and beyond supervisory positions within the industry be enhanced?

Career pathing and succession planning

Operators and managers in both sectors reported having entered the industry through chance rather than having made a deliberate career choice. Having started in the industry, however, many choose to stay. For operators, this may be partly through wanting to remain in paid employment ('*It's a job*' was a common reason given for choosing to work in the respective sectors). Managers reported '*interesting work challenge*' as a major reason for choosing to work in the industry. Having found themselves in the industry, most seemed to uncover good reasons to remain within.

Reported plans for retirement from the industry do not show managers or operators as wishing to leave for other work (in fact 100% of Abrasive Blasting operators want to continue work within the industry and 73% of Galvanizing operators report the same). Intentions regarding retirement for operators tended to gravitate towards "*I will retire when I can comfortably do so*".

The introduction of National Framework qualifications and training to the industry over recent years should have concurrently allowed for:

- more targeted career pathing for operators in relation to technical skills development and also in relation to supervisory and management skills development. (While this appears to be happening for Abrasive Blasting operators, 100% of whom reported being encouraged to take on-site or supervisory roles, only 50% of Galvanizing operators reported the same encouragement to do so.)

- improved succession planning within individual firms (people who are qualified with relevant skills can be tagged for future appointment to other positions within the firm).

It is suspected, however, and as previously commented on, that the small size of some Abrasive Blasting and Galvanizing businesses mitigates against career pathing and succession planning happening at all.

Questions to address:

- 6. How can EXITO help the industry take advantage of enhanced career pathing and succession planning that accrues from participation in the National Framework?**
- 7. What part could industry association's play in helping firms take advantage of enhanced career pathing and succession planning that accrues from participation in the National Framework?**

Enablement of equity of access to all learners (firms already participating in the industry's EXITO qualifications)

Influencing factors

From various aspects of the survey and managers' interview responses, it would appear that equity of access for learners (to the industry's Framework qualifications) is largely influenced by a number of related factors:

- Size of firm – the smaller the firm the less likely that actual and potential learners are accorded opportunities to either enroll in the relevant and already established industry qualifications, or for learners already enrolled, the less likely they are to receive learner management within-house that will lead to successful completion.
- Literacy levels and ESL – although there are differences between the Abrasive Blasting and the Galvanizing sectors in their perspectives on aspects of worker literacy and numeracy, both sectors seem acutely aware of the impact on the workplace of low literacy levels. Access by low literacy and ESL learners to the industry's qualifications (which are based on printed English-language text) would seem currently to be quite restricted.
- Qualifications structure – the industry's qualifications in both sectors were reported by managers as somewhat daunting in size for learners. The time taken to qualify experienced and skilled workers was also commented on (both in terms of overall duration and in terms of time taken to assess and progress individual learners). After a period of initial enrollments in industry qualifications and having now had a period of time to scrutinise the industry's qualification process in practice, it would appear firms are less enthusiastic than previously about the 'system'. Whether this is translating into

less of a 'push' to enroll new learners is not known. (Further investigation of the number of new entrant enrollments to qualifications as a proportion of total industry new recruitment and any lag between entry to industry and enrollment in qualifications would reveal this.)

- Industry skills training context – operators in both sectors report they would like more on-site training. It is hardly surprising that this desire coincides with the type of training provision that is best suited to this industry, particularly in the Galvanizing sector. Core skills in the work processes used in both sectors lend themselves to being conducted with workplace equipment and plant that cannot be readily replicated off-site. While some of the 'theory' spelled out in the 'Demonstrate knowledge of...' core-to-sector unit standards is best dealt in a training environment involving whiteboard and video, such an environment will result in optimum learning if it is also at the learner's workplace. Where this doesn't happen (almost certainly in the smaller firms) equity of access to learners is probably being compromised.

Questions to address:

- 8. How can EXITO and the industry increase Framework participation rates of smaller firms?**
- 9. How can learners from firms who are less able to provide effective learner management services be provided with such services?**
- 10. Will the introduction of TEC's adult literacy and numeracy improvement policies and practical initiatives be sufficient to increase access to industry qualifications for low literacy learners and ESL learners, or will EXITO and the industry need to develop additional industry-specific initiatives? If so, what form should these initiatives take?**
- 11. What actions can EXITO and the industry take to reduce real and perceived access barriers to industry qualifications?**
- 12. How can industry uptake of qualifications by firms already participating in EXITO training be improved?**
- 13. Should the industry consider introducing Limited Credit Programmes (that meet TEC's funding criteria) as a stepping-stone approach to national qualifications access?**
- 14. How can on-site/workplace training delivery (relating to industry Framework qualifications) be fostered and improved?**
- 15. What measures of industry uptake of qualifications should be used and what are the criteria for successful industry uptake?**

Extension of industry training to more people (firms not yet participating in the industry's EXITO qualifications)

Some firms in the industry (particularly in the Galvanizing sector) were heavily involved in the development of industry unit standards and qualifications but have chosen not to enroll their own employees in the now registered unit standards and qualifications. Most common reasons for not doing so were cited as cost and time, particularly in relation to provision of on-job training and preparation of candidates for assessment.

On-job training in core industry processes is also reported as problematic if is carried out by trainers external to the firm. Issues of credibility with trainees, commercial sensitivity, and flexibility in terms of timing of training delivery were cited. These factors further point to a requirement to consider ways in which the ability of firms to upgrade and more fully resource on-job Framework-related training delivery can be enhanced.

Those firms who have consciously 'opted out' of Framework participation are generally at the smaller end of the business-size scale and usually have only one owner/manager and limited supervisor resources. They suffer from the lack of economies of scale commented on earlier in this report.

It is apparent many of the very small-sized firms in the Abrasive Blasting sector are 'beneath the radar' as far as both industry association membership and structured National Framework industry training are concerned. Considering that nearly 90% of New Zealand small businesses employ fewer than 5 people (Ministry of Economic Development, *SMEs in New Zealand: Structure and Dynamics 2008*, August 2008, p 7) this is a problem that other industries must also face. EXITO could well look at how other ITOs are reaching industry sectors with similar proportions of small firms.

Questions to address:

- 16. How can small firms lacking economies of scale be assisted with participation in Framework industry qualifications?**
- 17. Does the industry have sufficient assessor resources and if not, how can they be increased? How can firms be assisted with the time-cost of candidate preparation for assessment?**
- 18. How can the ability of firms to upgrade and more fully resource Framework-related training delivery be supported? How can in-house training delivery expertise, particularly at supervisor level, be enhanced?**
- 19. What are other ITOs doing in order to get very small firms to engage with the National Framework and which of these practices could EXITO employ and adapt with the Protective Coatings industry (particularly the Abrasive Blasting sector)?**

Capturing accurate information to establish a system of training responsive to current and future skill needs for the Industry

For both the Abrasive Blasting and Galvanizing sectors, EXITO currently uses a standing Sector Advisory Group (SAG) as a conduit to industry information and needs. Each sector is represented on this Protective Coatings industry SAG (or PCSAG, as it is referred to), by firms who are also sector association members. Sector association executive representatives are currently also SAG members or they are invited to attend relevant meetings or parts thereof.

The Galvanizing sector's membership on the PCSAG represents a high proportion of the sector's firms. There are, however, some Galvanizing firms who are not association members and who do not engage with the National Framework.

On the other hand, the Abrasive Blasting sector's association membership represents a relatively lower proportion of the sector's firms compared with that of the Galvanizing sector. Consequently, engagement with the National Framework is also proportionally lower. This, as previously discussed, this is probably a function of small firm size.

EXITO review and moderation processes for industry qualifications and unit standards are well established, as is industry involvement in these processes. EXITO's continued use of the SAG model is recommended. Some consideration should be given, however, to means of engaging the participation of sector firms who are not association members and/or who have not bought into Framework qualifications and EXITO training, to do so.

EXITO should continue to support sector associations and where possible, build links through them to individual firms and industry data and information relevant to the industry's current and future skill needs.

Questions to address:

- 20. How can EXITO encourage and foster participation in the industry's Framework qualifications by firms who are not sector association members?**
- 21. How can EXITO help sector associations market the industry's Framework qualifications?**
- 22. How can EXITO build links through sector associations to industry data and information relevant to the industry's current and future skill needs?**

Industry skill needs for the future

The Abrasive Blasting sector appears to have identified a wider range of change impact areas than did the Galvanizing sector. It would seem that changes in technical applications and processes will continue to occur in both sectors, and there will be impacts from the introduction of new and more rigorous environmental and climate change controls. The impact of these changes on the industry's Framework qualifications and unit standards should be monitored and processes established for doing this if existing review processes are considered insufficient.

Questions to address:

- 26. Are processes in place that allow for assessment of the impact of change on industry skill needs, training, and qualifications?**
- 27. If they are in place are they sufficient?**
- 28. If they are not in place, what processes should be developed?**

8. Distribution of Results

The results of the survey will be distributed to all EXITO Board members, those who contributed to the survey, and other interested Protective Coatings industry personnel.

There may also be other interest groups who might share a curiosity about the outcomes of the project. The spectrum of possible audiences may include:

- The local press and other media
- Government Departments
- Professional Associations

Appendix A

Abrasive Blasting Industry

Questionnaire for Operators and Contractors

EXITO (The Extractive Industries Training Organisation) has developed this *confidential questionnaire* to gather information about the Abrasive Blasting Industry. Your answers will help us understand how to provide the kind of training you think the industry needs to meet the demands placed on it in the future.

**Thank you very much for taking part in this *confidential survey*.
We really appreciate your help.**

Part 1 - General Questions

1. Name of Company _____

2. Job Title _____

3. Contractor **Yes/No**

4. Age: _____

5. Male Female

6. Ethnicity: (Not Nationality) – Please tick relevant box

NZ European/Pakeha	<input type="checkbox"/>	NZ Maori	<input type="checkbox"/>	Samoan	<input type="checkbox"/>
Cook Island Maori	<input type="checkbox"/>	Tongan	<input type="checkbox"/>	Niuean	<input type="checkbox"/>
Tokelauan	<input type="checkbox"/>	Fijian	<input type="checkbox"/>	Other Pacific Island	<input type="checkbox"/>
Indian	<input type="checkbox"/>	South East Asian	<input type="checkbox"/>	Other Asian	<input type="checkbox"/>
Chinese	<input type="checkbox"/>	American	<input type="checkbox"/>	Other European	<input type="checkbox"/>
	<input type="checkbox"/>	Middle Eastern	<input type="checkbox"/>	Latin America/Hispanic	<input type="checkbox"/>
				African	<input type="checkbox"/>

7. How many hours do you work per week? _____

8. Why did you choose this job? _____

9. Did you have relevant experience/qualifications before you started working in the Abrasive Blasting industry? **Yes/No**

If yes – what? _____

10. Did you work in other industries before working in the Abrasive Blasting industry? **Yes/No**

If yes – what? _____

11. How many different Abrasive Blasting companies have you worked in? _____

12. How long have you have spent working in this industry? _____

13. Have you been encouraged to take on supervisor roles? **Yes/No**

If yes – what? _____

14a. Do you want to continue to work in this industry? **Yes/No**

14b. At what age do you plan to retire from the industry? _____

14c. What are your intentions regarding retirement? _____

Part 2 - Training Questions

1a. Does the company provide training for you? **Yes/No**

1b. If 'Yes' what are the reasons your company provides training? Tick box

- Safety
- Operational/process understanding
- Technical skills development
- Supervisory skills development
- Cultural understanding
- Other

Please comment if you ticked Other _____

2. Are you? - Tick box

- | | | |
|------------------------------|--------------------------|--------------------------|
| ▪ Interested in training | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Not interested in training | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Required to do it | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Encouraged to do it | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Other | <input type="checkbox"/> | <input type="checkbox"/> |

Please comment if you ticked Other _____

3. What benefits do you expect to get out of training? Tick box

- | | | |
|-------------------------------|--------------------------|--------------------------|
| ▪ Safer workplace | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Better skills | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Opportunity for advancement | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Other | <input type="checkbox"/> | <input type="checkbox"/> |

Please comment if you ticked Other _____

4. What are the skills or knowledge gaps where you would like further training? _____

5. Are you registered for EXITO training? **Yes/No**

6. Can you access your Record of Learning? **Yes/No**

7. Are you consulted about your training needs? **Yes/No**

8a. Is there a match between your training needs and what the company thinks are your training needs? **Yes/No**

8b. If not please comment. _____

9. How should training be organised to best fit in with your work? Tick box

- | | | |
|---------------------|--------------------------|--------------------------|
| ▪ During work hours | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Evenings | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Weekends | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Rostered days off | <input type="checkbox"/> | <input type="checkbox"/> |

10. *For contractors only* - What % of your work is Abrasive Blasting related? _____

11. *For contractors only* - Who pays for your training?

My Employer **The Contractor**

12. *For contractors only* - Do you receive enough training? **Yes/No**

Part 3 - Training Delivery Questions

1. What type of training delivery works best for you? Tick box

- Classroom presentations and group work
- On-site supervised practice
- Videos
- Distance learning (learning by correspondence)

2. In your training is there the right mix between practice and theory? **Yes/No**
 If no, please comment. _____

3. When you do training what support do you expect from your manager afterwards? _____

4. What factors are important in a trainer? Tick box

- Knowledgeable
- Experienced
- Supportive
- Goes at the right pace
- Patient
- Other – say what _____

5. What are your ideas for improving the way training is delivered? _____

6. When new equipment is delivered when are you **trained to use** and **maintain** it?

Tick box

- Before it is delivered?
- As it is installed & used (commissioned) for the first time?
- When it breaks?
- Not trained on new equipment I am required to use
- Not applicable

7. After you complete training, what length of time is there between getting the training and using the new skill? Tick box

- 1-5 days
- A fortnight
- A month
- More than a month
- Other

If you ticked Other, please say how long _____

8. Is training followed up with reviews of its effectiveness? **Yes/No**

9. Do you get refresher courses at an appropriate interval? (E.g. first aid refreshers) **Yes/No**

10. Are refresher courses managed by your employer – (who reminds you or books you in for these?) **Yes/No**

Thank you for participating in this survey

Appendix B

Galvanizing Industry

Questionnaire for Owners/ Managers/Supervisors

EXITO (The Extractive Industries Training Organisation) has developed this *confidential questionnaire* to gather information about the Galvanizing Industry. Your answers will help us understand how to provide the kind of training you think the industry needs, to meet the demands placed on it in the future.

**Thank you very much for taking part in this *confidential survey*.
We really appreciate your help.**

Part 1 – General Questions

1. Name of Company _____

2. Job Title _____

3. Age: _____

4. Male Female

5. Ethnicity (not Nationality) Tick relevant box)
- | | | |
|---|---|---|
| NZ European/Pakeha <input type="checkbox"/> | NZ Maori <input type="checkbox"/> | Samoan <input type="checkbox"/> |
| Cook Island Maori <input type="checkbox"/> | Tongan <input type="checkbox"/> | Niuean <input type="checkbox"/> |
| Tokelauan <input type="checkbox"/> | Fijian <input type="checkbox"/> | Other Pacific Island <input type="checkbox"/> |
| Indian <input type="checkbox"/> | South East Asian <input type="checkbox"/> | Other Asian <input type="checkbox"/> |
| Chinese <input type="checkbox"/> | American <input type="checkbox"/> | Other European <input type="checkbox"/> |
| African <input type="checkbox"/> | Middle Eastern <input type="checkbox"/> | Latin <input type="checkbox"/> |
| America/Hispanic <input type="checkbox"/> | | |

6. How many hours do you work per week? _____

7. What attracted you into this industry?
- | | |
|--|--------------------------|
| It's a job | <input type="checkbox"/> |
| The money | <input type="checkbox"/> |
| Interesting work challenge | <input type="checkbox"/> |
| Lifestyle/hours of work | <input type="checkbox"/> |
| Opportunity for advancement/career prospects | <input type="checkbox"/> |
| Other | <input type="checkbox"/> |
- Please comment if you ticked 'Other' _____

8. What are your qualifications?
- | | |
|-------------------------|--------------------------|
| School Certificate/NCEA | <input type="checkbox"/> |
| UE Bursary | <input type="checkbox"/> |
| Certificate | <input type="checkbox"/> |
| Diploma | <input type="checkbox"/> |
| Degree | <input type="checkbox"/> |
| Post Graduate | <input type="checkbox"/> |

9. How long have you have spent working in this industry? _____

10. What is your current salary range?
- | | | | | | |
|---------------------|--------------------------|---------------------|--------------------------|---------------------|--------------------------|
| \$30,000 - \$39,999 | <input type="checkbox"/> | \$40,000 - \$49,999 | <input type="checkbox"/> | \$50,000 - \$59,999 | <input type="checkbox"/> |
| \$60,000 - \$69,999 | <input type="checkbox"/> | \$70,000 - \$79,999 | <input type="checkbox"/> | \$80,000 - \$89,999 | <input type="checkbox"/> |
| \$90,000 - \$99,999 | <input type="checkbox"/> | \$100,000 or above | <input type="checkbox"/> | | <input type="checkbox"/> |

11. At what age do you plan to leave the industry? _____

12. At what age to you intend to retire from full time work?

- 40 years
- 41 – 50 years old
- 51 – 55
- 56 – 60
- 61 – 65
- 66 – 70
- Over 70
- Not applicable - work part time now

Part 2 – Your Professional Development

13. Is there a match between your professional/training development needs and what the company thinks you need? **Yes/No**

If no match, please comment _____

14. How many days of training have you had in the last 12 months?

- 0
- 1 – 5
- 6 – 10
- 11 – 20
- 21 or more

15.a What other development opportunities have you had in the last 12 months?

- Conferences
- Mentoring/coaching
- Secondments
- Acting in higher positions
- Other

15.b What development opportunities would you ideally like in the next 12 months?

- Training
- Conferences
- Other

If you ticked 'other', please name _____

Part 3 – Recruitment and Retention

16. Is there an adequate number of people interested in entering the industry?

Yes/No

17. What have you found to be the best ways of attracting people into the industry? _____

18. Currently which positions within the industry are difficult to fill and/or retain people in? (please tick relevant boxes):

Position	Difficult to fill	Difficult to retain
Managers	<input type="checkbox"/>	<input type="checkbox"/>
Technicians	<input type="checkbox"/>	<input type="checkbox"/>
Operators	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>

If you ticked 'other', please name the position: _____

19. Will it be feasible to fill staffing gaps by recruiting people to fill shortages from the following groups?

- a. Recruit staff from under-represented groups, (e.g. gender, ethnicity, age) **Yes/No**
- b. Recruit staff from other industries **Yes/No**
- c. Recruit staff from people out of the labour force **Yes/No**
- d. Recruit staff from overseas **Yes/No**

20. If there are not even numbers of men and women in your workplace, how could more women be attracted into the operator/hands-on side of the industry?

21. What should be done to remedy any expected skill shortages? _____

22. Is there a problem retaining people in the industry? **Yes/No**

23. Is the industry losing skilled and qualified people to other industries? **Yes/No**
24. Please rank the following possible reasons for any loss of skilled and qualified people from the industry. (Use '1' for the most likely reason, and '5' for the least likely):
- People are leaving for better careers and prospects in New Zealand
- People are leaving for better careers and prospects overseas
- People are leaving because there are limited job advancement opportunities in the industry
- People are leaving because there are limited training and development opportunities in the industry
- People are leaving for other reasons (please name): _____
25. If staff retention is a problem, what could be done to improve it? _____
-

Part 4 – Training

- 26.a Is there a clear career path for operators in the industry? **Yes/No**
- 26.b Should there be? **Yes/No**
- 27.a What opportunities currently exist/should be provided within the industry for new entrants? (please tick relevant boxes):

Opportunity	Currently exist	Should be provided	I need more information on this
Traineeships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadetships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Modern Apprenticeships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gateway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 27b. Do you understand the differences between the 4 opportunities above? **Yes/No**
- 27.c What do new entrants to the industry need to know or start with as a package of learning? _____
-

- 28.a Are new entrants to the industry bringing the desired level of skill in core areas such as literacy and numeracy? **Yes/No**

28.b If new entrant literacy and/or numeracy is a problem, can you describe its impact?

29.a For what % of current staff is literacy a problem?

- a. 0%
- b. 1 – 5%
- c. 6 – 10%
- d. more than 10% (please specify: _____%)

29.b What actions has the company taken to improve literacy and/or numeracy in its workforce? _____

30. Does the industry suffer from a limited up-take of training and up-skilling opportunities?

Yes/No

31. Are Out-sourcing and Sub-contracting factors in any limited up-take of training and up-skilling opportunities?

Yes/No

32. Is seasonal work demand a factor in any limited up-take of training and up-skilling opportunities?

Yes/No

33. What other factors might be contributing to a limited up-take?

34. To your knowledge, are those undergoing industry training leaving the industry at (please tick *one*):

- a. the same rate as those who are not undergoing training?
- b. a higher rate than those who are not undergoing training?
- c. a lower rate than those who are not undergoing training?
- d. not sure

35. Does current training delivery meet industry expectations in terms of relevance and quality?

Yes/No

36. Does current training delivery meet industry needs with respect to new technology and changing skill requirements? Yes/No

37. Do current training options provide for specialised fields within the industry? Yes/No

38. Of total training within your firm, what percentage is:

percentage	EXITO training	Non-EXITO training run by own staff	Non-EXITO training run by own external staff
none	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
less than 5%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 – 10%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11 – 25%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26 – 50%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51 – 70%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71 – 80%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
81 – 90%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
91 – 100%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

39.a If your firm does not currently provide EXITO-related staff training, does it intend to do so in the near future? Yes/No

39.b If not, why not? _____

40. Are there enough trainers in your industry? Yes/No

41. Please rate the trainers within your industry from '1' (high) to '5' (low) in the following areas:

- a. satisfaction with quality of trainers
- b. trainers are able to motivate all types of people
- c. trainers are knowledgeable
- d. trainers are supportive/patient
- e. trainers train at the right pace

- f. trainers use appropriate humour during training
- g. other (please name): _____

Part 5 – The industry in the future

42. How is industry output expected to grow over the next 5 to 10 years?

- a. No growth
- b. decline
- c. less than 5%
- d. 6 – 10%
- e. more than 10% (please specify: _____%)

43. What changes do you think will impact upon the industry and its workforce over the next 5 years?

- a. computerisation
- b. more contractors
- c. more young people
- d. more women
- e. more ethnic diversity
- f. more languages in the workplace
- g. technology advances (please specify):

h. other (please specify):

44. How satisfied are you with the services of EXITO?

	very satisfied	satisfied	neither satisfied nor dissatisfied	dissatisfied	very dissatisfied
Reliability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Protective Coatings (Abrasive Blasting & Galvanizing) Industry Survey Report, 2008

Responsiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Courtesy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	very satisfied	satisfied	neither satisfied nor dissatisfied	dissatisfied	very dissatisfied
Credibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Confident that EXITO product meets national or international standard for the industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understanding the customer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other comments: _____

Thank you for participating in this survey