

Case-study of

# Competitive Manufacturing

*FRUCOR New Zealand  
Auckland, April 2010*



## Case-study #3 FRUCOR

### EXECUTIVE SUMMARY

At Frucor 156 staff are directly involved in manufacture and supply of 130 million litres/year of Non alcoholic Beverages to the Australasian market.

**Why:** Frucor's leadership team realised it needed to create a culture of continuous improvement and harness employee motivation and creative thinking to become a world-class manufacturing organisation. The company had a vision that developing staff through a formal improvement programme would stimulate change in all aspects of the business resulting in a competitive edge for the company.

**Who:** The company wanted to find a coach who would fit into the existing family culture of Frucor. A number of lean providers were reviewed before Bob Carter of the Improve Group was selected as lead coach. The Improve Group's Auckland and Christchurch teams have ably assisted him.

**What:** Competitive Manufacturing (CM) was seen as way to achieve a paradigm shift in employee thinking from - *I come and do as I'm told;* to - *I can and do make a difference!*" Therefore the resulting change was 80% cultural and 20% a visible change.

**CM was seen as a supplement to Frucor's people development strategy.**

**Where:** All work was done on-site. Training took place in the lecture room for about 60 minutes at the beginning of every new project. Staff members were then able to 'discover' how this new knowledge could be applied in their workplace. For every new tool the coach gave a practical explanation.

**When:** The journey started in August 2007 and continues every day.

**How:** Throughout a two-year period the coaches typically spent half a day each fortnight for 12 to 24 sessions each year on-site. The Frucor teams were brought in step-by-step with the bottling teams being first, learning to use 5S tools and techniques. A year later, the supply, batching, and Tetra pak teams repeated the theme of 5S and visual management, taking all the lessons learnt from the bottling and canning areas and customising it for their use. The second year's theme was quick changeovers, followed by continuous improvement and mistake proofing in year three.

**How much:** Training engaged 156 staff members, with 81 National certificates achieved, and a completion rate of 100% by December 2009. The time commitment required by staff was the largest investment required, but was seen as beneficial in improving business measures and developing all staff members. The total investment of 21,381 hours included training, coaching, assessment of unit standards and actively working on improvements. An investment of approximately \$200,000 in staff time and improvements has been made over the two-year period.

**Sustaining CM:** The journey will be sustained by constant learning and auditing, using the PDCA-Deming Cycle.



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### Background

Frucor Beverages are the company behind Fresh Up drinks, a New Zealand staple since 1962. The business manufactures a range of other products, including V, Mizone and H<sub>2</sub>Go.

156 staff are directly involved in manufacturing and supplying 130 million litres of product to the Australasian market every year.

At the heart of Frucor was innovation and the company believed thinking employees were their greatest competitive advantage. Frucor had a vision that developing staff through a formal improvement programme would stimulate positive change across all aspects of their business. *“Paradigm shift - I come and do what I’m told.”* to, *“I can and do make a difference!”*

*“We want them to have ideas, to think for themselves and challenge the status quo.”* **Henk Roling, Manufacturing Director.**

A previous training programme had delivered benefits in employee literacy and numeracy, but employee engagement remained low.

### Beginnings

*“The key to a new approach is harnessing every staff member’s insights, energy and talent to eliminate ‘non-value activities’ from the workplace as well as giving teams the opportunity to take ownership of their work. We wanted a programme that would challenge, develop and help us to see new possibilities we had not been able to see for ourselves!”* **Philip Penhale - Optimisation Co-ordinator**

Frucor knew that the programme had to be workplace-based, deliver team and individual development, be fun and have a visual impact on the workplace and conditions of staff.

Based on the feedback from employees, a tailored programme was created. The company partnered with industry training organisation **Competenz** and the chosen training provider, the **Improve Group**.

The outcome was a programme called Competitive Manufacturing (CM), designed to take the company through a change management process using lean manufacturing systems, such as process improvement and value-chain mapping.

A new position was created to focus solely on managing the programmes, and a room was fitted out for training and meetings. The manufacturing leadership team worked together to develop a simple strategy and communication plan to encourage staff buy-in.

The programme was launched in 2007 to all manufacturing staff, including the factory’s engineering team. Nine thousand hours of training time were allocated to the production schedule over the first 18 months of the programme.

*“The CM qualifications are only one of the tools to creating a culture that we want. Creating a culture requires a critical mass, and most people are not managers, hence our focus on the shop floor. Using rapid improvement events with appropriate tools to help the staff was successful in engaging the staff and a great result, while the qualification is value add to the individual.”*

**Fiona Wikaira, Production Development Manager**

English was not a first language for many of the manufacturing staff, and many had limited formal education so the prospect of learning again had been daunting for some. Especially learning about concepts most have never heard of before. This has taken some adjustment for staff.

To start with a Competitive Manufacturing review was conducted which indicated opportunities in Visual Management, 5S, Quick Changeover and Continuous Improvement. The goal was to adopt competitive manufacturing (CM) practises in these areas first.

### FRUCOR'S adoption of CM in manufacturing

The objective was bringing about cultural change and making CM part of the FRUCOR culture so that everyone was engaged in their work every day.

#### 5S and the Visual Workplace

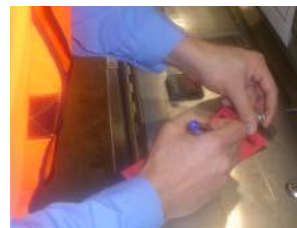
Frucor wanted to create an environment where staff could learn new skills, challenge the status quo for improvement, and continue to develop. Creating a tidy and organized workplace with visual management was seen as one important factor, with staff being able to make decisions and influence the change in their workplace. The vision was a cultural shift in thinking on how an already hygienic area would become more effective due to 5S<sup>1</sup>.

A steering committee was set up to support everybody involved in managing the implementation of 5S/Visual workplace.

The visual workplace and 5S theme consisted of five 4-hour sessions. The theory was introduced over the first half hour followed by a tour of the workplace to see how this could be applied. This followed the practice of “Gemba Kanri”, go to the workplace if you really want to improve.

#### Session 1: Introduction to lean

The session introduced the eight wastes in the workplace and linked to the 5S program. A 5S “Sort” activity and Red Tagging Auction were conducted. The team was expected to have completed the sorting of the work area prior to the next session



Red tag auction  
(part of Leading 5S)

#### Session 2: Set in Order and Shine

The session defined the principles that the site should be ‘tour-ready’ at any time, a dry-floor goal. The teams were tasked with finding “a place for everything and everything in its place”. This ensured that everything was correctly labelled, colour coded and correct stock levels identified. Any sign of a leak became a spotlight for improvement – no liquid on the floor!



Cap trolley parking area

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<sup>1</sup> 5S is a simple but highly effective set of techniques that remove waste from your work environment through better workplace organization, visual communication and general cleanliness. The pillars of 5S are defined as Sort, Set in Order, Shine, Standardise and Sustain.

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### Session 3: Presentation of achievements in the workplace

The challenge of proving what teams had done by presenting their improvements in the workplace to managers. This included the next step of 5S for their area.



The image shows a printed document titled "TEAM: INWARDS GOODS 5S AUDIT ROSTER". Below the title, it says "Chart on 5S Audit Roster/Manufacturing/Projects/CM/Forms". The document contains a table with the following data:

Week	Do before 5S meeting on...	Audit Team	Manager Audit
7	11-Feb	Carol + Joss	no
8	18-Feb	Mark + Glenn	YES
9	25-Feb	Mark + Glenn	no
10	4-Mar	Carol + Joss	YES
11	11-Mar	Mark + Glenn	no
12	18-Mar	Mark + Glenn	YES
13	25-Mar	Carol + Joss	no

Table showing the 5S Audit Roster

### Session 4: Standardising and Sustaining improvements

From the initial 5S score done on day one, a review of the current score was completed with the staff. A 12-week target was set for continuous improvement.

### Session 5: KPI's and the visual workplace

The session focussed on updating and mind-sizing the performance data displayed. Asking hard questions to ensure all people understood the information displayed was meaningful.



Ian Lowe –Team Leader conducting a “Red Tag” auction (part of Leading 5S)



B Shift team members decide where items should go

The KOLB<sup>2</sup> learning process, based on experiential learning is key component to The Improve Group delivery. This gives leaders insights and appreciation of the process of how people learn and what role they play when taking new knowledge to their staff.

Each team was challenged to define their own identity and to develop a team performance board. Initially this included 5S and improvement ideas, and was expanded to include other information, such as safety and Quick Changeover performance.

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<sup>2</sup> The KOLB process has four phases, Concrete Experience, Reflective Observation, Abstract Conceptualisation, and Active Experimentation.



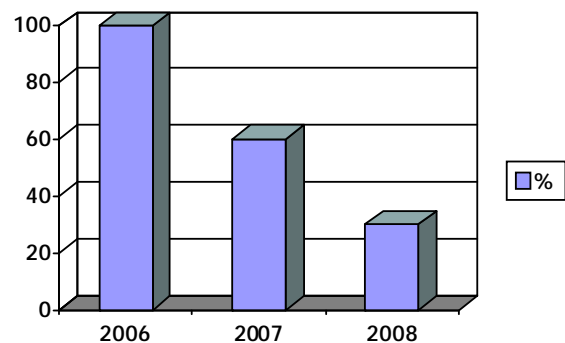
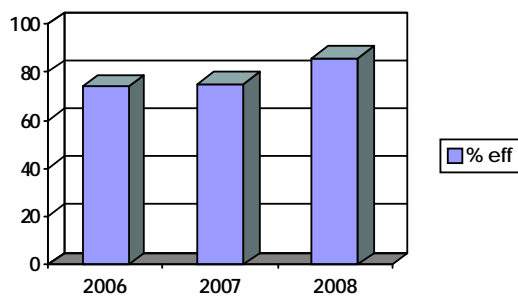
Can line performance board



Inwards Goods – Risk Register

Visual management is a key strategy in adopting CM. The teams decided on the results and achievements they wanted to share and visually displayed these. Important, when displaying results was choosing the right measures that have meaning to all of the team. A number of ideas were considered through the process and everyone now agrees the measures are mind-sized and therefore the team-members show ownership of them.

Two examples below that illustrate success using 5S for the Procomac (Bottling) team show a ten percent increase in efficiency and a seventy three percent decrease in defects produced since projects commenced in 2006.



**Procomac improves efficiency by 10% on the 2006 benchmark**      **Quality improvement reduces defects by 73%**

*“Without 5S you are going nowhere. We had to start there and with that we could get started improving everything. Internal and External changeovers were a significant new tool for me. We used this to make significant progress with ease and reduced lots of waste. Improving does not happen overnight! We now always start with proper brainstorming to ensure we have more chance of success.”* **Diane Sutherland, Tetra line team leader**

**Training focussed on specific unit standards**

21501 – Apply CM, 21508 – Apply 5S, 21523 – Lead 5S, 21537 – Manage 5S

**Specific skills and tools used were:** Lean wastes, workflow, 5S, red tagging, point of use storage, sustaining and leading change.

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### Quick changeover for better delivery and easier work

The objective here was to improve the changeover process by 30 – 40% every year from now on. An additional objective was to simplify the process so casual staff could also achieve the time.

Ten teams were trained during six half-day sessions each. Additional six half-day sessions were held during the remainder of the year to support continuous improvement.

*“If we expect everyone to engage then we must supply the tools and environment for this to occur.”*

**Henk Roling, Manufacturing Director.**

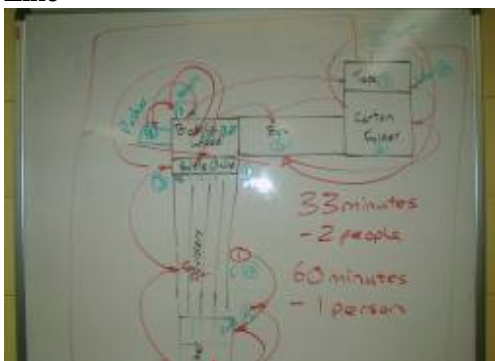
Motion maps and measuring of changeover downtime helped to analyse and quantify the potential for improvement. At the canning line, for example, all team members brainstormed ideas on how to simplify the changeover process. The team also sought ways to improve the presentation of information required for changeovers, e.g. by colour-coding of can pack size settings..



**Quick Changeover Kaizen on the Canning Line**



**Operators challenge the way a setting is made.**



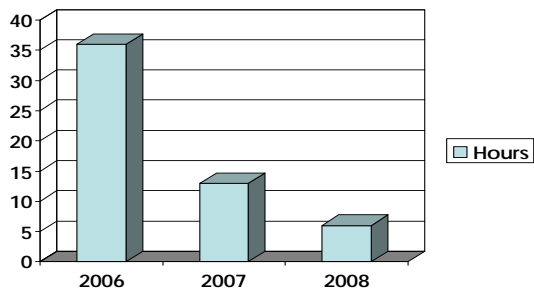
**Motion map of changeover**

F3		F9	
4PK	274	4PK	210
6PK	275	6PK	208
8PK	330	8PK	262

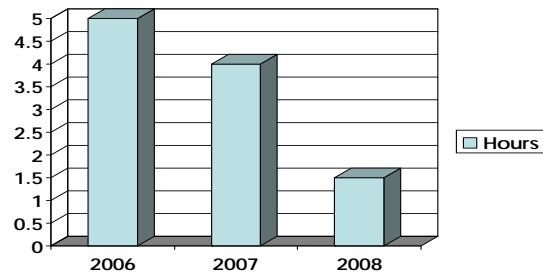
**Settings for different can pack sizes**

The achievements by the teams through quick changeover initiatives speak for themselves. The charts on the next page illustrate the decrease of downtime hours per changeover (due to product changeover) at the Procomac and Can-line from 2006 to 2008.

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**Bottling line downtime**



**Can line downtime**

Smaller innovations go to the heart of making work easier and this is where the CM methodology and tools made a difference for employees. To take their ideas to the team leader, coupled with quick implementation meant employees had ownership of their idea and could feel proud after they saw the improvement to their workplace.

Colour coding of each product, (the natural colour of the product) has ensured the system can be checked at a glance for incorrect parts. Red is 'Berry' and everyone knows that is what the complete set of interchangeable parts must look like when 'Berry' is being manufactured.



**Trolley including digital scales and label printer**



**Marked storage area – every item has its place.**

Simple quick ideas make the world of difference to daily life. This trolley, and neatly marked storage areas are some of over a hundred suggestions that have made a difference.

### Training focussed on specific unit standards

21504 – Quick changeover, 21533 – Lead changeover, 21525 – Mistake proof production process, 21522 - Analyse manual handling, 21515 Undertake root cause analysis.

**Specific skills and tools used were;** SMED (Single Minute Exchange of Die), Motion maps, cause and effect diagrams, root cause analysis, mistake proofing, team leadership.

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### Rapid Improvement Teams

The concept of rapid improvements is taken from the Japanese term 'Kaikaku' and is built on Frucor's level of continuous improvement. Some of the processes had three rapid improvement events during the year. Rapid improvement events take one to two days of focused activity of improvement.

After a year, most of the staff was confident in using their knowledge for small improvement opportunities. Putting many of these skills into one focused opportunity brought significant and quick changes. A high level of engagement from all and support from managers meant the initiatives also translated into results. Whatever the idea or change it had to be practical for all to use and benefit the value stream to qualify.

The picture series below shows a Rapid Improvement Team re-designing the dry ingredients batching layout.



Before



Sorting



Cleaning



Designing the new layout



Out comes the paint



Final storage space



Set in order and shine phase



Visual Workplace – layout is duplicated on the wall

## Reducing manual handling

Sometimes employees are used to doing the same thing over and over – even if unpractical – simply out of habit. With new skills, Frucor employees started looking at what was hard and how they could make this easier. They came up with ideas and spoke with supervisors and fitters about what could be done.

**Quantity of Labels**– The operators in charge always brought in a whole day’s worth of labels, which could be up to six pallets full. As they learnt about the seven wastes, they realised they could eliminate some of the waste by bringing in fewer labels at a time. They reduced unnecessary inventory, transport, waiting and motion. Now they bring in what they need for the production run.



Labels for one production run loaded



Labels in production

**Heavy items** - The Procomac line can fill different size bottles by changing the guides around a star wheel. Since the machine was installed, operators had always struggled with lifting the 12kg guide part and logically wanted to make their job easier. As a team, the operators worked with the fitters and had handles cut into the part. They then realised they could make it even lighter by drilling out some of the Nylon. In this way, the fitters reduced the weight of the part by 5kg. Since then changeover downtime has been reduced from 8 minutes to a mere 40 seconds.

**Ergonomics and H&S** - Operators had to reach over hot pipes to get to a valve. This was subsequently relocated after a risk audit was completed during a review of changeover procedures by the team that had been doing this for years.



Bending over machines to make adjustments

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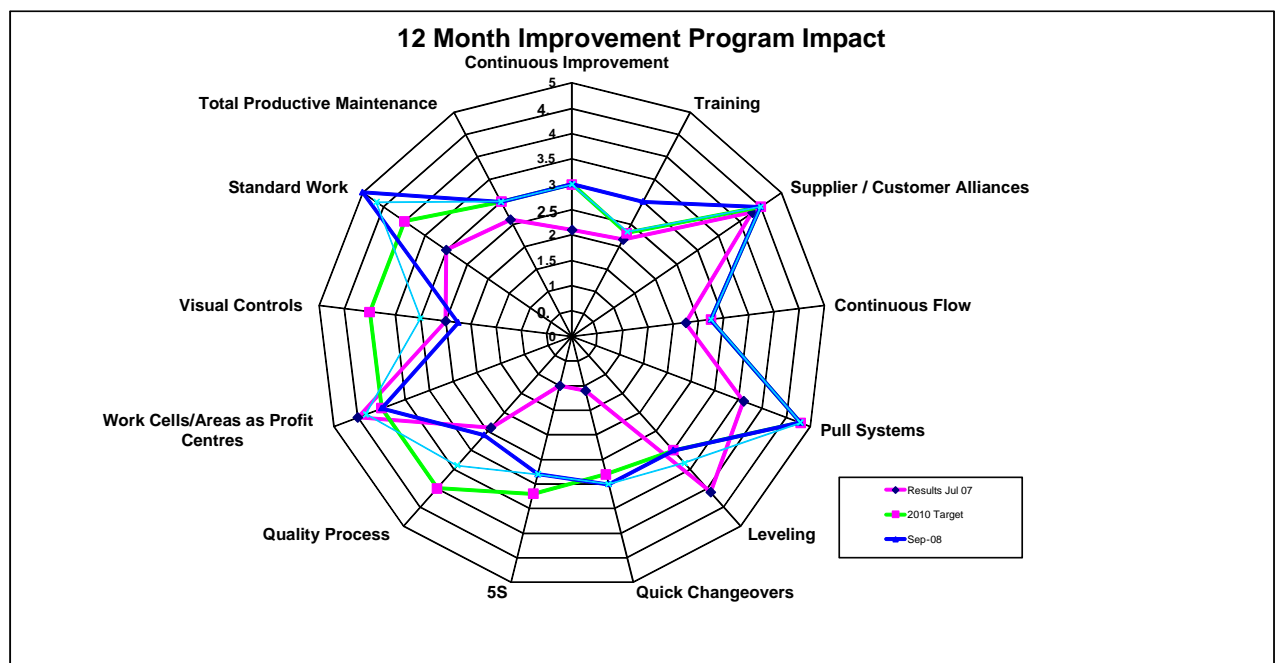
### Training focussed on specific unit standards

21502 – Sustain improvement, 21518 – Ensure improvements are sustained, 21519 – Lead change, 24780 – Team development, 21515- Undertake root cause analysis, 21525 - Mistake proof process, 21333 - workflow management principles.

**Specific skills and tools used were;** Rapid improvement events, 30/30 Kaizen, Kanbans, safety stock and buffer stock levels, stock rotation techniques.

## Programme Impact after 12 months

The radar chart shown below illustrates the CM program impact after 12 months. It also sets out the target and areas to work on for the coming year. Areas for improvement in 2010 include 5S, quality process and visual controls.



## Maintaining momentum

### *“If we don’t measure, we don’t manage!”*

Auditing has a recognition attached to it. Frucor have adopted a quarterly competition to win the Deming Cup, floating trophy. All employees complete audits in their own area for themselves. This is a visual ‘sweep’ to ensure the standards are being maintained. Managers complete fortnightly audits and review the results with the team. Next year they are rolling out this concept across the whole site, which means they can begin cross-team auditing. Frucor people are hopeful this will spawn more positive change with ideas being shared across a whole site.

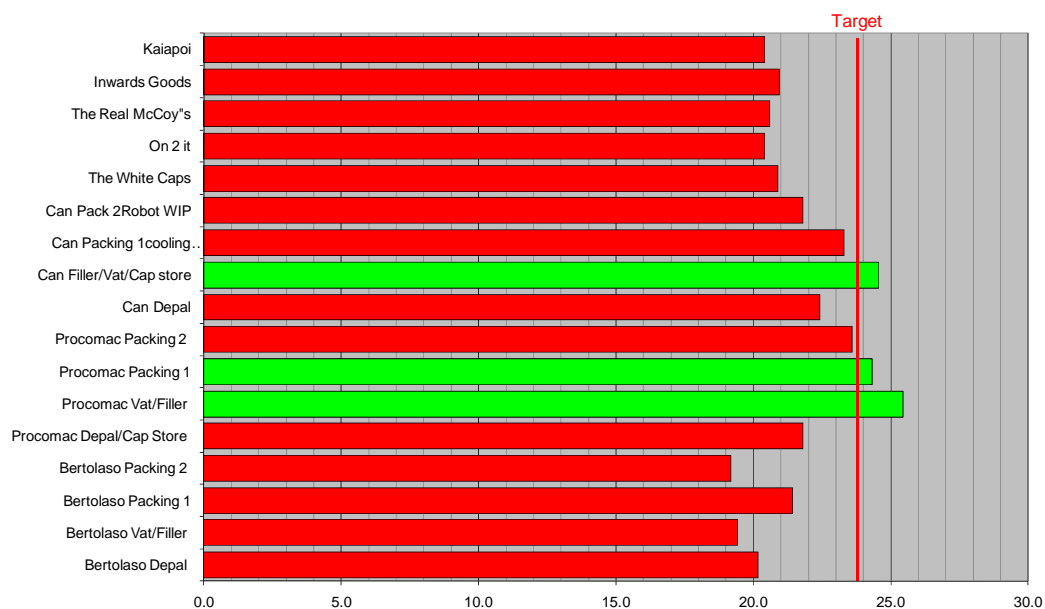


The Deming Cup, awarded to the team with the highest quarterly audit score

*“We have a problem! My Managers don’t know how to handle the 152 people generating ideas now, when prior to the CM journey, there were only a few people generating ideas!” “The number of ideas that are now coming from the factory floor to improve the workplace – it’s as though somebody has flicked a switch.” We knew that we needed a formal strategic plan and investment to implement it. If anyone had a good idea we would have to back it up with action, but very quickly. Cut out the waiting! We are embedding it the way we behave, the procedures, the visual displays, and never relent on advancing our progress. Change has always been with us, people will engage with change when the change is good for them.”*

**Henk Roling, Manufacturing Director**

5S Manager's Audit Scores Q2-2009



5S scores are known to everyone, a great motivator to improve by learning from other teams



## Productivity improvement through structured training

Today new ideas are generated rapidly and deployed just as quickly. A number of ideas are recorded and one is chosen that can be implemented immediately. The results are recorded once the idea has been implemented following a Plan-Do-Check-Act approach.

Frucor has a goal that every staff member should implement six ideas and six safety ideas during the year, a goal which they currently achieve easily.

During the first ten months of 2009, the teams raised 1810 ideas and implemented 732 of these. This equates to an average of 7.3 ideas/person/year. (Excludes safety ideas)

Over the two-year period, a total of 21,381 hours were committed to CM. On average three hours per week were used to improve the business and staff development. This includes staff attending learning; follow-up includes personal group project coaching and mentoring, presentations to management and assessment.

	Investment in hours per staff member					Total hours invested for the whole site
	Training	Follow-up	Internal Coaching	Projects	Total	
Level 2	14	18	145	68	245	16,917
Level 4	27	45	210	90	372	4464

*“Frucor has owned the programme from the start, and it is our responsibility to lead, while having the right coach to impart the knowledge. The knowledge is important but it does not make a difference unless the culture of learning is applied. The support of the team leader as a facilitator of the team is vital. Without support, team leaders will not be in a position to bring about cultural change and improved business performance. That is why a major part of every manager’s day is leading.”* **Fiona Wikaira,**

### **Production Development Manager**

The table below shows total number of unit standards attempted by all staff on site with completion rate and continued learning at the next level.

	Unit standards	Staff Started	Staff Completed	Credits	Started next level
Level 2	828	69	69	4140	11
Level 4	97	12	12	900	0
<b>Total</b>	<b>925</b>	<b>81</b>	<b>81</b>	<b>5040</b>	<b>11</b>

## Unit standards completed by all staff for Level 2 and 3 Certificates

### **Achieving unit standards as a matter of priority**

CM is one part of Frucor’s overall business strategy, but is central to ‘better people’. Completing the qualifications was more important for the individual than it was for the company. It gave individuals a great sense of achievement. Frucor supported all their staff in this process by committing heavily in time to learn and apply this to the business. This

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formed part of their integrated business plan. CM is an opportunity for innovation not only in new products, but also in the process of manufacturing those products. The company's next focus is building leadership capabilities of coaching and mentoring within CM during 2010.

From the start, everybody involved knew they were going to try and achieve level 2 or 4 qualifications. It was a great start, difficult for some, but the people involved worked together.

Units at level 2 and 3 were chosen in line with employees experience and competency levels. All areas of Quality, Cost, Delivery, Safety and Morale (QCDSM)<sup>3</sup> were covered to gain a solid grounding of all business needs. There was a four to six month lead-time between start of unit standards and first attempt at assessment.

Competenz were delighted to be involved with Frucor's Competitive Manufacturing journey. The ITO has been able to assist Frucor with direct subsidy funding, the provision of national certificates and dedicated account management. Support to the Frucor Competitive Manufacturing implementation team and more recently, the establishment of a Competitive Manufacturing hub at Frucor, signify the mutually beneficial relationship. Furthermore, Frucor has effectively engaged the ITO through its participation on advisory groups and at the 2009 Food and Beverage Forum, Frucor demonstrated its position of leadership in Competitive Manufacturing in its industry. Competenz is proud of and committed to their ongoing association and the success of Frucor Beverages.

*“We have seen huge gains in efficiencies by creating a culture of continuous improvement. When a staff member becomes self-critical, then we know that the culture of continuous improvement is being embedded. When conducting the audits, I am delighted to see how staff members debate issues with a level of maturity that I thought would take years, but has taken only 12 months. It is also very important for staff to have outside recognition. Besides the internal acknowledgement, leadership encouragement and CM qualifications; the recent external recognition, e.g being part of the Manukau City's “Tomorrow's workforce awards” has been vital for maintaining morale. It also takes serious commitment from every manager, and we spend 20% of our time leading CM at Frucor. CM is a part of our ‘Best People’ program and is our competitive strategy and advantage.”* **Chris Kane, Factory Manager**

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<sup>3</sup> Quality, Cost, Delivery, Safety and Morale (QCDSM) is an approach to business operations that empowers workers to take ownership of their productivity and output and work as a dynamic team to continuously improve their processes and performance. Results of this approach include reduced need for external management and supervision, improved quality and delivery, reduced costs and high team morale.



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### Unit standards completed by operators

69 operators gained skills and knowledge to participate in business improvement activities and to complete the Level 2 National Certificate in Competitive Manufacturing.

Table showing Level 2 and 3 unit standards by completions

Unit #	21332	21333	21501	21502	21503	21504	21506	21507	21508	21515	21525
Unit level	2	3	2	3	3	2	2	3	3	3	4
Leverage on	Morale	Delivery	Morale	Delivery	Morale	Cost	Quality	Cost	Safety	Cost	Quality
2007 – 2009 completions	69	69	69	69	69	70	69	69	69	69	70

### Unit standards completed by team leaders and managers

12 managers gained an overall base of learning to enable continuous business improvement and to complete the Level 4 National certificate in Competitive manufacturing.

Table showing Level 4 and 5 unit standards completed by team leaders and managers

Unit #	21517	21518	21519	21522	21523	21532	21537	21533	24780	24783
Unit level	4	4	5	3	4	5	5	3	5	4
Leverage on	Morale	Delivery	Morale	Safety	Safety	Cost	Safety	Cost	Morale	Delivery
2007 – 2009 completions	13	13	13	35	13	12	7	12	11	35

## A personal journey of learning – What the employees say

### Godfrey Van Boom, Procomac Shift Team Leader

*“A CM qualification has been a great opportunity for me to apply many practices I had learnt before with my team. In a previous company, we also went down the improvement path but as individuals, we had no formal recognition. Now when we are faced with opportunities to improve I know we have lots of tools and methods that we all can use with good insight. Being a team leader in this environment is a lot easier and great for overall morale. I have seen a big mind-set change in all staff.”*

*“The most satisfying sense of achievement is seeing the face of a team member when they have successfully implemented the ideas they have come up with for a problem they have defined. To me, that is what a CM qualification gives to people.”*

### Maselina Mavaega, Procomac senior operator

*Through good teamwork, we assisted each other in both keeping the line going and in achieving CM qualifications. Many of us are not first language English staff. Some of the words and concepts are difficult to understand. As a team, we worked together and asked first language English staff to help. We shared knowledge in this way and that made it possible for us all to have common understanding about CM and*

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*gain level 2 and 4 qualifications. This is a never ending journey for all of us, and we have a qualification too.”*

### **Ngametua John, Procomac operator**

*The biggest part of learning was ‘think positive’. As a person who was for the first time after leaving school having an opportunity to learn and have a CM qualification Level 2, well this is great. I like the PDCA cycle and use it at home too. This is a journey of self-discipline; it will not work if you cannot apply self-discipline.*

### **Brent Prisk, Can line team leader**

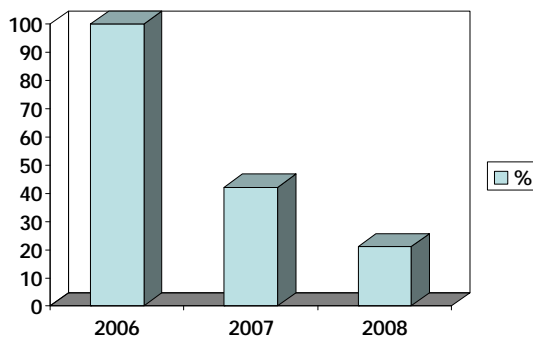
*“Where change was scary, most feel part of the change now. The qualification is a huge sense of achievement. Now that we have the training, we are surer of ourselves when we tackle opportunities. The fact that the qualifications were not easy is even a greater sense of achievement. We are even looking at what our next qualification could be.”*

### **Diane Sutherland, Tetra line team leader**

*As a new team leader on the Tetra line, I have the confidence to lead the team with new qualifications and the experience of applying it in the workplace. I can now attempt opportunities way outside my comfort zone. I now want to try these steps of real out of the box thinking. Just wonderful, for me!*

## A final word from the customers

A significant measure of success can be seen in the dramatic drop in customer complaints received since starting the CM journey. The graph below illustrates a 78% decrease in these complaints with total complaints received in 2006 set as 100 percent for this graphic. This reduction may be the biggest benefit of the project so far.



**Customer complaints** as a percentage of 2006 complaints received.



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### Appendix

The following table lists the full detail of the unit standards referred to in this case study. Further detail can be obtained from the NZQA website at [www.nzqa.govt.nz](http://www.nzqa.govt.nz).

NZQA ID	Title	Level	Credit
21332	Demonstrate basic knowledge of establishing improvements in a manufacturing environment	3	2
21333	Demonstrate basic knowledge of workflow management in a manufacturing environment	3	4
21501	Apply competitive manufacturing practices in a competitive manufacturing organisation	2	5
21502	Sustain process improvements in a competitive manufacturing organisation	3	3
21503	Manage the impact of change on own work in a competitive manufacturing organisation	3	3
21504	Apply quick changeover procedures in a competitive manufacturing organisation	2	5
21506	Apply cost factors to work practices in a competitive manufacturing organisation	2	5
21507	Interpret product costs in a competitive manufacturing organisation	3	5
21508	Apply 5S procedures in a competitive manufacturing organisation	3	5
21515	Undertake root cause analysis in a competitive manufacturing organisation	3	5
21517	Implement a competitive manufacturing system in a competitive manufacturing organisation	4	10
21518	Ensure process improvements are sustained in a competitive manufacturing organisation	4	8
21519	Lead change in a competitive manufacturing organisation	5	8
21522	Analyse manual handling processes in a competitive manufacturing organisation	3	5

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NZQA ID	Title	Level	Credit
21523	Lead 5S in a competitive manufacturing organisation	4	5
21532	Manage people relationships in a competitive manufacturing organisation	5	15
21533	Develop quick changeover procedures in a competitive manufacturing organisation	5	10
21537	Manage a 5S system in a competitive manufacturing organisation	5	15
24780	Facilitate the development of a competitive manufacturing team	5	5
24783	Facilitate continuous improvement in a competitive manufacturing organisation	4	5

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