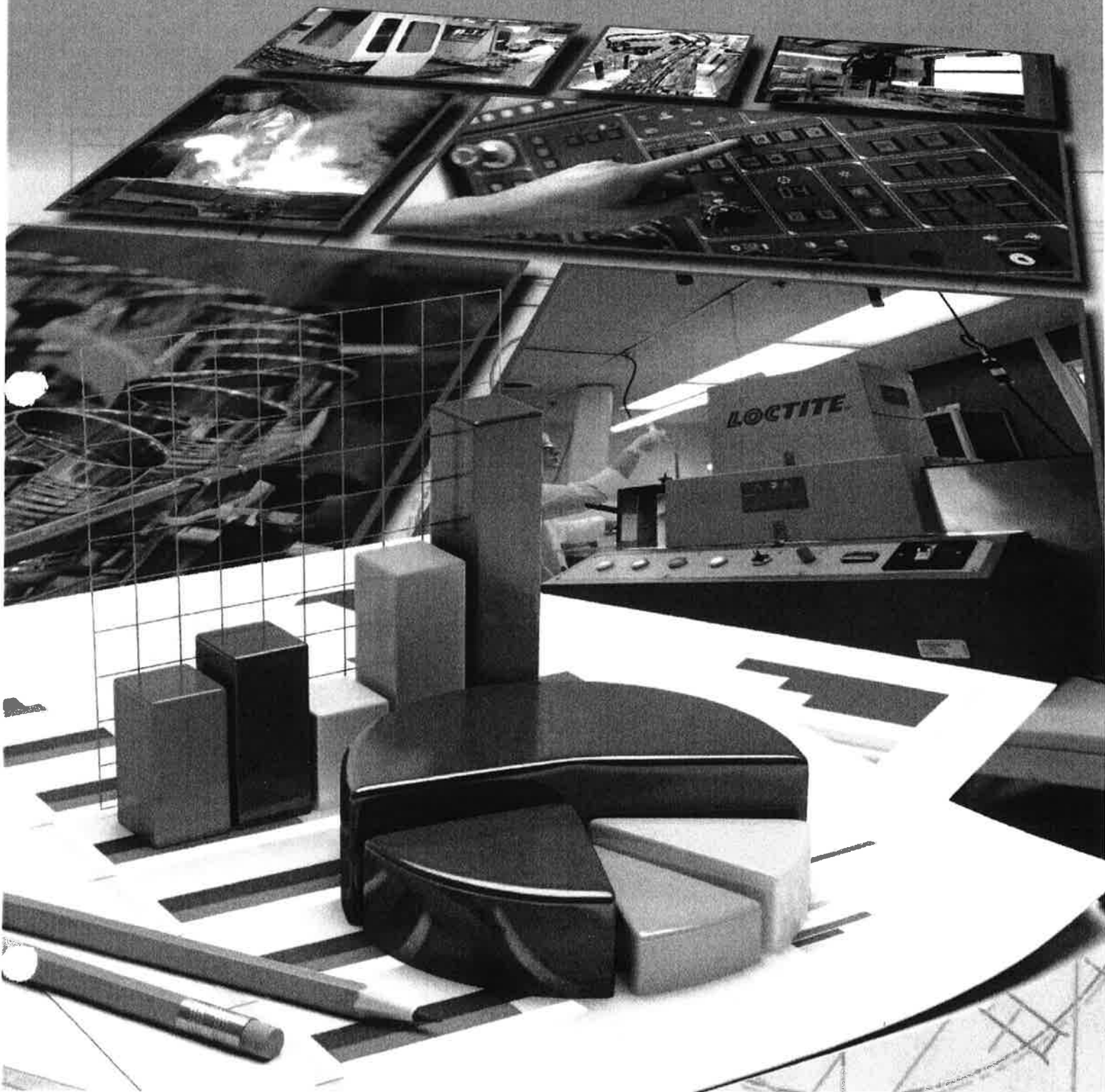


EASTERN ONTARIO MANUFACTURING

A FOCUS ON

PRODUCTIVITY AND INNOVATION

FINAL REPORT 2011



Projects such as this could not be possible with one organization working alone.
The following groups were a part of this collaborative initiative:



COLLEGE
Loyalist
Training & Knowledge Centre
Skills that WORK.

Bay of Quinte Competitive
Innovative
Supportive
QUINTE ECONOMIC DEVELOPMENT COMMISSION



Supported By:
Canada

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MANUFACTURING PRODUCTIVITY, INNOVATION & ASSESSMENT ACTION TEAM INITIATIVE

1 Project Background

During the Eastern Ontario Economic Summit held June 21-22, 2010, and organized by the Eastern Ontario Wardens Caucus (EOWC), the Eastern Ontario Community Futures Development Corporations Network Inc. (EO CFDC Network Inc.) and the Ontario East Economic Development Commission (OEEDC), 120 participants from public and private sector organizations across Eastern Ontario came together in Kingston to discuss and develop regional economic development plans. These plans were intended to advance Eastern Ontario's shared economic interests, leading to economic prosperity and community development.

Participants identified that small and medium-sized enterprises (SMEs) have "significant growth potential if they could improve productivity and increase capacity to innovate." It was also determined that there is a need "across the region to promote the exchange of best practices and productivity improvement measures, lean manufacturing skills, and development and implementation of specialized training programs and encourage creative, 'out-of-the-box' initiatives including mobile 'productivity teams' which could assist manufacturers to realize their full potential." The need for Eastern Ontario manufacturers to improve productivity and innovation is reflective of various industry association, provincial and national reports and studies that have identified productivity and innovation issues within Ontario's manufacturing base.

Dr. Jayson Myers the President & CEO of the Canadian Manufacturers & Exporters Association (CME) has addressed local manufacturing associations on many occasions about the identified need to improve productivity. In his report "**Invest to Grow: Technology, Innovation and Canada's Productivity Challenge**" (October 2010), Dr. Myers noted:

Our future economic prosperity rests on our ability to grow those assets and to create greater value from them. That depends, in turn, on an investment strategy focused on productive assets:

- 1. Investing in knowledge – in the research, development, application, and commercialization of new products and processes;*
- 2. Investing in productive technologies – technologies that produce things of greater value; and,*
- 3. Investing in people – specifically in the skills and capabilities of a productive workforce.*

IN THE NEWS: Ontario's Productivity and Innovation Gaps

TORONTO (Reuters - Tue Nov 23, 2010) - Sluggish increases in productivity and a lack of innovation are hampering economic growth in Ontario, Canada's most populous province, a report released on Tuesday said.

The report, written by the province of Ontario's Task Force on Competitiveness, Productivity and Economic Progress, said businesses must invest more in technology and bolster management techniques and practices.

The Ontario government's Task Force on Competitiveness, Productivity and Economic Progress recently released its Ninth Annual Report* that confirmed "Ontario's prosperity gap is a productivity gap; the productivity gap is an innovation gap. We need more innovation today for our long-term prosperity. As we recover from the economic downturn, the Task Force on Competitiveness, Productivity and Economic Progress urges all Ontarians to step up our innovation capabilities to achieve our long-term Prosperity Agenda."

Further the report states that over the last decade, lagging productivity has accounted for the greatest share of the prosperity gap with our peers, and in 2009 this productivity gap widened further. Six sub-elements of productivity were used to determine the impact of this key driver of Ontario's prosperity gap:

1. Our industry mix contributes positively to our productivity.
2. Within clustered industries, Ontario has a beneficial mix.
3. Cluster under performance is a significant part of Ontario's productivity gap.
4. Relatively low urbanization is a significant contributor to our productivity and prosperity gap.
5. Lower educational attainment weakens our productivity.
6. The residual is related to productivity.

The Report also noted that "**Ontario's prosperity compares well globally, though productivity still trails**" and that Ontario's challenge is to recover from the recession and to build our full prosperity potential for the benefit of all Ontarians. Higher productivity is critical to our success. And improving our productivity means improving our innovation performance.

**Source: Today's innovation, tomorrow's prosperity - Task Force on Competitiveness, Productivity and Economic Progress, Ninth annual report, (November 2010)*

With a mandate to support manufacturers' efforts to address productivity and innovation the Quinte Economic Development Commission (QEDC), supported by its Manufacturing Resource Centre (MRC) and their partners, was selected to implement a recommendation from the Eastern Ontario Economic Summit to establish and coordinate a pilot project comprised of specialized assessors known as "Manufacturing Jump Teams".

The QEDC, in conjunction with its partners, has an established history of developing and delivering successful programs, such as the Manufacturing Resource Centre and the Pathways to Productivity series, to assist regional manufacturers. It was proposed that this project would be accomplished through professional assessments of selected manufacturing facilities utilizing experts with extensive experience with current issues facing manufacturing.



The assessment teams selected were knowledgeable about productivity and innovation strategies and experienced with implementation plans. Additional resources were consulted to identify government and other forms of assistance to further the participating manufacturers' efforts to improve productivity. Recommendations were developed to enhance each firm's productivity, and opportunities were identified where companies might introduce innovations into their operations.

The Manufacturing Jump Teams, in conjunction with the project managers, reviewed assessment results, completed a recommended action report and identified potential assistance opportunities for each business visited. Representatives from the assessment team returned to review the report with the owners or senior team members of the respective manufacturers.

Additionally best practices and themes were identified and are to be shared with the broader manufacturing community to assist with improving their levels of productivity and innovation.

2 Project Partners

The Quinte Economic Development Commission (QEDC), at the suggestion of Mr. Andrew Wallen, General Manager and Chief Executive Officer, Kawartha Lakes CFDC and Mr. Dan Borowec, Director, Economic Development & Tourism, Northumberland County, and with support of other Community Futures Development Corporation (CFDC) partners, agreed to lead this regional project.

QEDC is an incorporated not-for-profit organization dedicated to the promotion of economic growth in the member municipalities of Belleville, Brighton and Quinte West in the Bay of Quinte region. In 2000 the QEDC partnered with Loyalist College, Trenval and others at the Quinte Business Development Centre located at Loyalist College to provide a one-stop shop for business and economic development. QEDC has had significant success developing and implementing investment attraction and regional retention strategies.

QEDC has also been a leader in developing and delivering activities across an extended region beyond its core mandate to support broader regional growth. One major success was the development and deployment of the Manufacturing Resource Centre (MRC) a "Go to Resource" for manufacturers located throughout four Eastern Ontario counties (Hastings, Lennox & Addington, Northumberland and Prince Edward).



The following partners provided significant contributions in support of this project:

The **Government of Canada** provided funding for this project through the Regional Development component of the **Eastern Ontario Development Program (EODP)** which is delivered by the **Federal Economic Development Agency for Southern Ontario (FedDev Ontario)**.

FedDev Ontario's EODP promotes socio-economic development in Eastern Ontario by creating, building and developing the necessary conditions to increase business and employment opportunities in the area. The EODP will assist economic renewal in five priority areas:

1. Business and community development;
2. Skills development;
3. Access to capital;
4. Retention and attraction of youth; and
5. Technological enhancements.

Funding and support of the EODP is delivered via the Community Futures Development Corporations (CFDCs) located throughout Eastern Ontario, as well as the Eastern Ontario CFDCs Network Inc.

Kawartha Lakes CFDC and **Northumberland County Economic Development & Tourism**, on behalf of the **Eastern Ontario CFDCs Network Inc.** and the **Eastern Ontario Wardens Caucus**, representing the economic summit steering committee, took on the responsibility of outlining the issues and opportunities emerging from the Eastern Ontario Economic Summit.

The **Quinte Business Development Centre (QBDC)** partners provided assistance to the internal project team, access to meeting facilities for steering committee and team meetings and reviewed the final company reports to identify possible sources of assistance for the manufacturers. QBDC based organizations include:

- Business Development Bank of Canada (BDC)
- Loyalist Training & Knowledge Centre (LTKC)
- Manufacturing Resource Centre (MRC)
- National Research Council - Industrial Research Assistance Plan (NRC-IRAP)
- Ontario Ministry of Agriculture, Food & Rural Affairs (OMAFRA)
- Quinte Economic Development Commission (QEDC)
- Small Business Centre (SBC)
- Trenval Business Development Corporation

Kawartha, Northumberland and Quinte Manufacturers Associations and their members identified participating companies. These organizations assisted in promoting the program and disseminating the report and its findings to their respective members.

Quinte Economic Development Commission served as the administrator of the program and utilized its extensive networking capabilities with other economic development offices to ensure the initiative was available to manufacturers throughout the project area.

Community Economic Development Officers identified suitable manufacturers within their communities that would benefit immediately from this project.

The **Manufacturing Resource Centre** was responsible for coordinating the activities of this project.

Loyalist Training & Knowledge Centre provided extensive productivity improvement related expertise. As well as providing a source of field team representatives from their contract trainers they also provided information to the internal team on current productivity improvement methodologies and resources.

Business Development Bank of Canada's consulting division provided field team representation through their contract consultant, Franz Weilandt of Euroscan.

3 Project Objective

This new initiative established "Manufacturing Productivity, Innovation & Assessment Action Teams" known colloquially as "Manufacturing Jump Teams". In February and March 2011, the teams traveled across a pilot region in Eastern Ontario (see map), assessing and making recommendations to twelve manufacturing companies with the objective of supporting their efforts to increase productivity, upgrade facilities, expand opportunities and look towards new and innovative practices to sustain and ideally grow their business and market share.

In addition, the project team delivered the Eastern Ontario Productivity and Innovation Symposium and a regional productivity workshop. As well as assisting the participating manufacturers, another objective was to develop a regional productivity and innovation culture within the Eastern Ontario manufacturing community that will continue to be supported by manufacturing associations, economic development offices and all levels of government. Increased productivity and innovation are key to ensuring the viability and growth in this essential component of Eastern Ontario's economic well-being and the pilot project contributed significantly to achieving this goal.



ECONOMIC BENEFITS

The economic benefits of the pilot project include: increasing productivity, leading to lower cost structure and/or increased capacity, as well as access to innovation support for new or better products or processes. The objective is to increase the competitiveness of Eastern Ontario manufacturing, improving productivity will increase manufacturing capacity and could lead to increased employment and/or orders.

Targets:

1. Assessment Tool - A tool, aligned to and rated against world-class standards, was developed by Loyalist Training & Knowledge Centre to standardize the methodology of assessing each manufacturer's productivity. This utilized a balanced score card approach that rated productivity measures, delivery, cost, quality, safety, and morale. The assessment results included in the final company reports provided the manufacturers with action items for immediate and future use. In addition the tool can be used for future internal audits comparing against this initial assessment.

2. Assessments - The original plan was to target 6-8 manufacturers. By working closely with the assessment teams and building on the existing relationships with economic development offices, CFDC's, manufacturing associations and the Manufacturing Resource Centre the number of assessments in the pilot region was increased to 12. Manufacturers were assessed with the expectation that they would utilize the findings and implement the recommendations to achieve productivity gains, potentially enhancing their capacity and/or increasing their labour force.

3. Symposium - Common themes and opportunities learned from the manufacturers were shared at the March 22, 2011 Eastern Ontario Productivity and Innovation Symposium. Motivational keynote speaker Ian Percy (*see Appendix A*) facilitated a session drawing out ideas from manufacturers on how to collectively move forward. The session challenged the current thinking around productivity restraints and opportunities and enabled the collective exploration of new possibilities.

4. Regional Workshop - A workshop on Maximizing Employee Contributions was delivered on March 1, 2011. This was offered to members of the Kawartha, Northumberland and Quinte Manufacturers Associations with the objective of teaching managers and company executives how to use leadership techniques that encourage employees to contribute more, and adapt more quickly to everyday changes and stress while maintaining highly productive working relationships in a continuous improvement focused environment.

5. Final Report - The final report outlining the project, the approach, the common themes and industry identified recommendations was developed to share results with the regional manufacturing community to encourage them to understand and become engaged in the productivity assessment process. The process outlined in the report can be used as a model for other regions throughout Eastern Ontario.



4 Project Description

4.1 Overview

For the period of February and March 2011, the manufacturing jump teams visited and assessed 12 manufacturing companies. They helped identify opportunities to potentially increase productivity, upgrade facilities and technology, expand opportunities and direct companies to look towards new and innovative practices by which to sustain and ideally grow their business and market share.

4.2 Selection of Companies

Potential participating manufacturers were identified through the manufacturing associations, CFDC's and various economic development offices. After confirming companies were interested in participating, businesses were selected in collaboration with local Economic Development Officers and the CFDC's in the area. At least one company was selected from each of the CFDC areas. A wide range of industry, from food processing to metal fabrication, rural to urban and small to large were selected to give a good cross sectional representation of Eastern Ontario manufacturing in the pilot project area.

4.3 Assessment Teams

A team of expert business consultants with substantial experience in private sector manufacturing issues, trends and continuous improvement methodologies was assembled to deliver the program. Consultants from Loyalist Training & Knowledge Centre (LTKC) and Business Development Bank of Canada (BDC) were selected based on their real world experience, strong local track record and reputation.

4.4 Pre-Assessment Questionnaire

Prior to the onsite visit each participant was required to complete a brief pre-assessment questionnaire to familiarize the assessors with the company.

4.5 Assessment

The assessment teams provided a "new set of eyes" and a fresh perspective on productivity. During each visit the assessment teams utilized the Productivity Assessment Tool checklist (see Section 7.1) to quantify productivity measures, delivery, cost, quality, safety and morale. The process engaged the manufacturers and their employees in a review of their operations and provided honest and objective feedback.

The process allowed each company to benchmark themselves against the average of the other participating companies and against world-class standards. The assessment identified priority action areas. In conjunction with the productivity assessment, a number of participating companies took part in a human resource survey to determine the level of employee engagement (see Section 7.2). The level of engagement by employees has a significant impact on productivity. On average, two businesses were visited each week over the duration of this project.

4.6 Interim Report

The assessment team reported back to the company contact immediately upon completion of the assessment. This prompt report back was well received by all companies. All participants were provided a copy of the assessment report.

4.7 Sources of Support

The organizations co-located in the Quinte Business Development Centre (QBDC) reviewed the draft reports to identify additional resources that could be used to assist companies with improving their productivity and their innovation capacities.

Going forward, manufacturers are encouraged to work with their local economic development office, CFDC and manufacturing association to access programs and resources to assist with the implementation of productivity and innovation activities.

4.8 Individual Company Reports

The individual reports sent to the companies included:

- Assessment finding and recommended action items
- Metrics for quantifying the effectiveness of any implemented items
- A copy of the tool for measuring future performance
- Documentation to validate and enhance future requests for company or government investment
- Financial and incentive programs and other resources available for support



5 Anticipated Outcomes

- Manufacturers would gain increased awareness and understanding of productivity improvement opportunities and supporting resources
- Increased number of manufacturing facilities in Eastern Ontario would experience productivity gains in their operations. This would lead to enhanced capacity and potentially increases in their labour force
- New business opportunities via both improved productivity as well as possible innovations into the business, the latter potentially delivering niche market opportunities
- A greater degree of competitiveness for Eastern Ontario manufacturing.
- Assist manufacturers to develop an enhanced and more highly skilled labour force related to productivity and innovation development
- Larger regional, continental and global markets developed for Eastern Ontario manufactured goods
- Sharing of common themes and potential solutions to support increased productivity and innovation
- Productivity assessment tool developed and available for future use
- Use the pilot project to validate the need for this type approach and set the foundation for future support of productivity and innovation programs across Eastern Ontario
- Confirm willingness and ability of local manufacturers to participate in workshops, third party productivity assessments and follow through with the identified action plans

6 Sector and Company Information

The project steering committee reviewed submissions and referrals from local economic development offices, CFDCs and manufacturing associations to select a cross-section of manufacturers from the region represented by the Quinte, Northumberland and Kawartha Manufacturers' Associations. Companies participating in the assessments represented a variety of North American Industry Classification Standards (NAICS) classifications indicative of the diverse manufacturers seeking to improve productivity in the geographic study region. Classifications included sawmills, dairies, machinery and metal fabricators, plastics, consumer products, and electronics component manufacturers.

Company and Assessor Details				
Company	NAICS – Sector	Location	Lead Assessor	CFDC Area
Cascades Boxboard Group	32213 Paperboard Mills	Cobourg	Hisham Saab, LTKC	Northumberland
Jan Woodlands	32111 Sawmills & Wood Preservation	Bancroft	Franz Weilandt, BDC	Hastings
GH Manufacturing	326111 Plastic Bag and Pouch Manufacturing	Belleville	Hisham Saab, LTKC	Trenval
Horizon Plastics	326198 Other Plastic Product Mfg.	Cobourg	Franz Weilandt, BDC	Northumberland
Pan Oston Ltd.	337215 Showcase, Partition, Shelving and Locker Manufacturing	Peterborough	Franz Weilandt, BDC	Peterborough
Sabic Innovative Plastics	325991 Custom compounding of purchased resins	Cobourg	Hisham Saab, LTKC	Northumberland

Company	NAICS – Sector	Location	Lead Assessor	CFDC Area
Savage Arms Canada	332999 Other Miscellaneous Metal Product Manufacturing	Lakefield	Hisham Saab, LTKC	Peterborough
The Black River Cheese Company	311515 Butter, Cheese and Dry & Condensed Dairy Product Manufacturing	Milford	Franz Weilandt, BDC	PELA
The Machining Centre	332710 Machine Shops	Quinte West	Franz Weilandt, BDC	Trenval
The Stirling Creamery	311515 Butter, Cheese, and Dry & Condensed Dairy Product Manufacturing	Stirling	Hisham Saab, LTKC	Trenval
TS Manufacturing Company	33321 Industrial Machinery	Lindsay	Franz Weilandt, BDC	Kawartha Lakes
Tyco Thermal Controls	335920 Communication & Energy Wire & Cable	Quinte West	Brian Beiles, LTKC	Trenval

7 Methodology

Productivity Assessment and Employee Engagement Tools

7.1 Productivity Assessment Tool

The Productivity Assessment tool developed by LTKC identifies six key performance measures that many successful companies balance in their quest for benchmark productivity improvements. Each section contains key questions that allow participants to better understand where they stand versus desired industry and world-class standards and in comparison to current best practices of high performance productivity leaders. To determine a value the assessors assigned ratings for each performance measure categorized under the following key performance metrics: Productivity Measures, Delivery, Cost, Quality, Safety, and Morale. In addition, an Employee Engagement review was conducted at selected organizations.

7.1.1 Pre-Assessment Information Collected

The following -assessment information was collected prior to the site visit to familiar assessors with the company:

- Company name and location
- Website ULR (if available)
- Type of operation
- Primary products and services offered
- Number of employees
- Organizational chart (if available)
- How is productivity measured at the site
- What is the productivity trend in the last 3-5 years
- Recent (last 1-2 years) successes
- Key challenges and opportunities
- Ideal productivity-based (if already identified) help needed

7.1.2 Metrics

Jump Team consultants utilized the following point scale for assessing the current situation at each participating company.

0 points	1 points	2 points	3 points	4 points	5 points
Nothing evident	Some attempts	Happening sometimes	Mostly in place	Fully in place	Part of the daily work
	No Impact on results	Some better results	Results improved, below goal	Results at goal	Benchmark excellent, sustained results

The following questions were used as the basis for evaluation each company. At the same time the assessors noted other items that were highlighted as either an opportunity for improvement or as an existing good practice.

7.1.2.1 Productivity Measures

1. Overall Site productivity goals, improvement action plans and progress are documented and visible for all
2. People doing the daily work are looking for the sources of waste and working to continually improve and eliminate them
3. Maintenance and continual improvement work processes are in place to ensure that over 90% of machine downtime is planned >24 hours in advance
4. Machine or raw materials availabilities do not limit machine capacity or ideal throughput (and if so they are being improved with Improvement events or Quick Changeover techniques)
5. The work to run, maintain, improve and problem solve Operations is standardized and being used daily to do the work and to train and qualify new people

7.1.2.2 Delivery

1. The flows of raw materials, production order information and people are well understood & continually improving
2. Material and finished product inventories and their costs are all visible, consistent and continually improving
3. Point of Use Visual Controls are in place to inform people doing the work whether they are on track to deliver customer requirements (That includes knowledge of lead time and maybe TAKT time)
4. There is a highly visible daily production planning and scheduling work process in place triggered by actual customer orders
5. People are cross-trained on multiple workstations to prevent injury, maintain workflow and to improve customer response flexibilities

7.1.2.3 Cost

1. The costs of manufacturing are systemically measured and controlled and improvements are routinely driven by business owners
2. Detailed Effort Analysis and resultant action plans are in place for productivity and cost breakthroughs
3. Action plans are in place for cost reduction initiatives other than labour (i.e. material cost reductions, energy cost savings)
4. Premium freight costs are monitored to understand any issues in workflow, supplier performance or lead times
5. Major cost improvement efforts are driven by rigorous loss analysis and are regularly planned and well structured

7.1.2.4 Quality

1. Customer quality requirements (the Quality value) are clearly understood and documented
2. In-process measurements control and adjustments are in place to ensure quality of the finished product. Procedures exist to identify and adjust deficiencies in process controls
3. Visual management tool in place (i.e. Tracking board) to indicate status of quality issues, indicating ownership and timeline for resolution
4. Defined process is followed for root cause identification and elimination of quality issues
5. Visual methods of identifying non-conforming product are common (i.e. coloured labels, tags, paint dots, quarantine areas). Documented processes exist for review, release / or scrapping of non-conforming product
6. Measurement methods are documented, (and measurement equipment calibrated on a regular basis) supported with visual aids, one point lessons (OPL's), pictures and are reviewed and renewed regularly

7.1.2.5 Safety

1. All safety Incidents including first aids are recorded, tracked and displayed against the goal for everyone to see
2. Actions are taken to address outages and correct behaviour to eliminate the safety root incident root causes
3. A visible (visual aids, tracking chart) culture in place that works on fixing unsafe equipment, correcting unsafe conditions/behaviour before incidents occur.
4. Available written standards for performing work (all types) safely are constantly reviewed for accuracy and renewed when new information becomes available
5. Formal safety training is scheduled on a regular basis for the total organization
6. Personal safety equipment is available as per the needs of the tasks at hand.

7.1.2.6 Morale

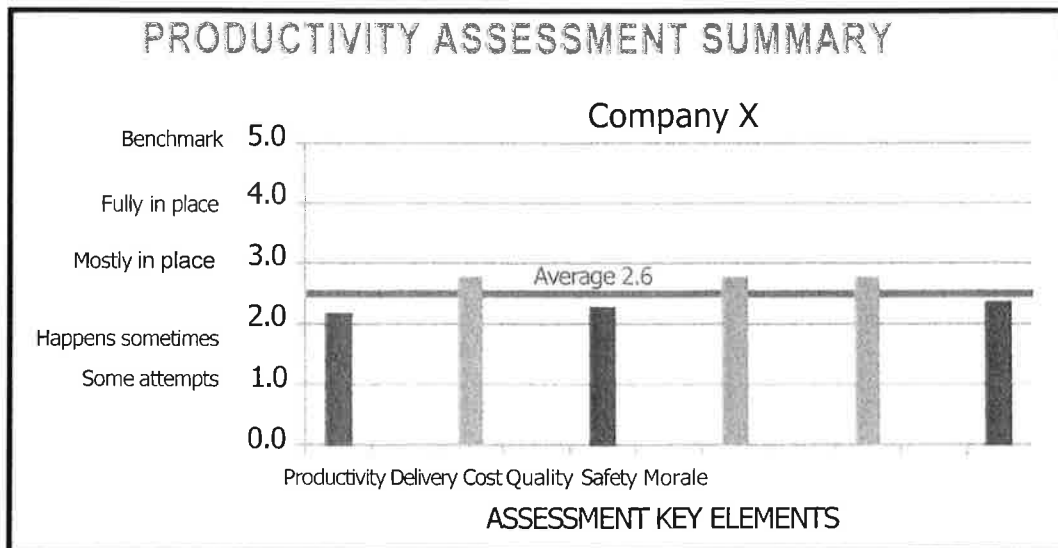
1. A universal system is in place to deploy and share company objectives and goals
2. Documented links exist between the overall strategic intent of the organization and the actual job/activities employees perform
3. Regularly scheduled performance reviews and ongoing feedback in place
4. Employees are encouraged, empowered, and provided with the right tools and training to be involved in problem solving
5. Team, department or plant wide celebrations recognize all achievements
6. Open communication channels exist where employee ideas team member differences and personal needs could be reviewed for resolution and accommodation

7.1.3 Summary Report

Results were tabulated in a Productivity Assessment Tool Score Sheet that was included in the detailed report provided to client. This provided a snapshot of the findings.

Productivity Assessment Tool Score Sheet		
Company Name: Company X		Assessment Date: March 2011
		Average Rating
01	Productivity	2.2
02	Delivery	2.8
03	Cost	2.3
04	Quality	2.8
05	Safety	2.8
06	Morale	2.4
-	Overall Average	2.6

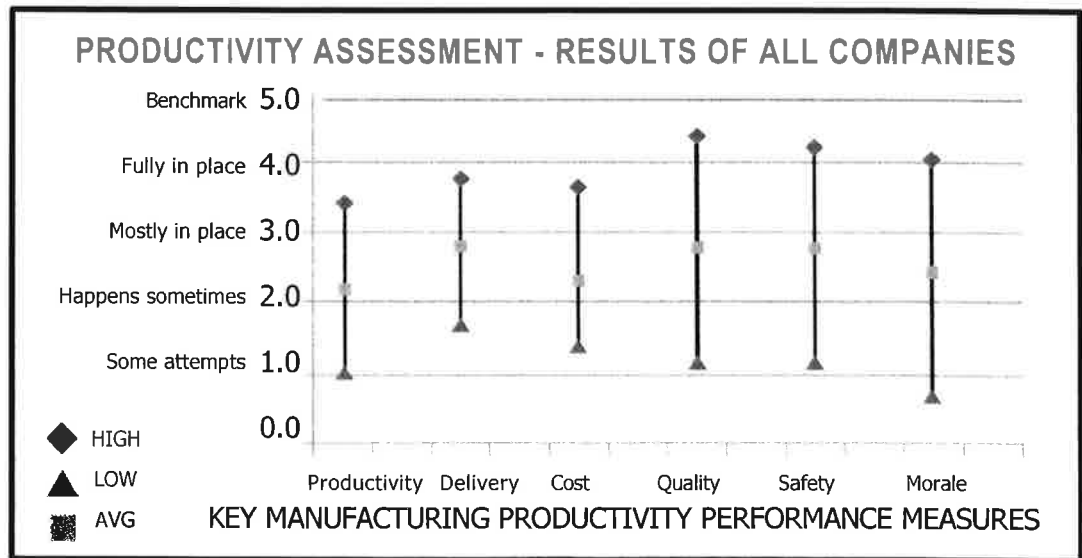
Results were tabulated in bar chart format and included in individual reports:



7.1.4 Results

The following graph summarizes the combined productivity assessment results from the 12 participating plants. The horizontal axis lists the six categories of manufacturing productivity performance measures plus the average of all categories. The categories chosen are the same as used globally by leading edge companies that are best managing their Overall Equipment Effectiveness (OEE) measure as the backbone of their Total Productive Maintenance system of optimizing productivity, costs and equipment performance. Productivity Assessment teams asked the same critical questions per category at each plant to assess where they are in their journey of productivity improvement versus what leading edge companies are doing.

The vertical scale shows the average scoring of answers for each category questions ranging from making only "some attempts" to happening sometimes, mostly or fully in place or ideal benchmark practices at the top end. Results were plotted for the lowest and highest scores from the 12 plants as well as the average of the plants.



7.1.5 Analysis

The data collected was incredibly valuable for each plant as it contributed to their education and understanding of productivity while helping them better see and understand what they currently are doing in each category versus what they could be doing. The cumulative data between all sites gives a startling view of the opportunities manufacturers in this region have to dramatically improve their productivity without spending millions on new technologies or equipment automation.

Collectively our strengths show up in the traditional key results areas of Quality, Safety and even Delivery (managing inventories, planning & scheduling and flexibilities). There are a few locations that have great employee morale but there is a huge range across all plants.

The biggest opportunity area overall is to narrow the huge range of results between all plants and the simple fact that on average, meaningful efforts to improve productivity are "happening sometimes", with some plants only carrying out occasional attempts to improve productivity.

It should be noted that not one category is “mostly in place” on average. Two category measures needing help are overall Productivity and Cost. The Productivity category includes specific productivity improvement goals and actions, waste, planned maintenance, equipment and operational efficiencies. The need to improve productivity regionally is in agreement with studies noted in the first section of this report. The Cost category looks at actions like cost improvement, effort analysis and total plant losses or waste analysis & action planning.

7.2 Employee Engagement Tool

One of the key elements of the exercise was to determine the level of employee engagement in the operation as research and best practices indicate this is an essential component of successful productivity. The intent was to utilize the “Gallup Q12” with as many of the participating companies as possible. If not feasible, other methodologies were incorporated to produce required assessment outcomes.

The world’s top-performing organizations understand that employee engagement is a force that drives performance outcomes. In the best organizations, engagement is more than a human resources initiative -- it is a strategic foundation for the way they do business. Research by Gallup and others shows that engaged employees are more productive. They are more profitable, more customer-focused, safer, and more likely to withstand temptations to leave. The best-performing companies know that an employee engagement improvement strategy linked to the achievement of corporate goals will help them win in the marketplace.

Managers may see their primary duties as planning the work, organizing and staffing it and controlling and problem solving as the plan rolls out. They sometimes forget that they also must lead their staff to actually get the work done, including: giving them direction, securing their alignment with goals and most importantly, support and motivating them. It turns out that satisfying basic human needs is critical to the motivation process.

The Gallup Q12 is a survey designed to measure employee engagement. The instrument was the result of hundreds of focus groups and interviews. Researchers found that there were 12 key expectations, that when satisfied, form the foundation of strong feelings of engagement. More than 1.5 million employees have participated in the Q12 instrument.

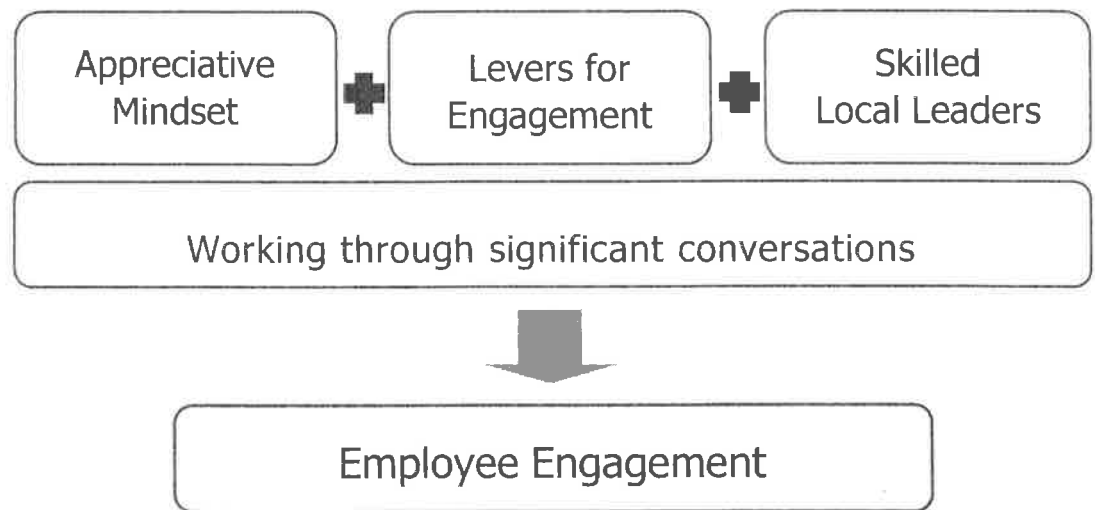
The engagement index slots people into one of three categories:

- **Engaged** employees work with passion and feel a profound connection to their company. They drive innovation and move the organization forward.
- **Not-Engaged** employees are essentially “checked out.” They are sleepwalking through their workday. They are putting in time, but not enough energy or passion into their work.
- **Actively Disengaged** employees aren’t just unhappy at work; they’re busy acting out their unhappiness. Every day, these workers undermine what their engaged co-workers accomplish.

Comparisons of engagement scores reveal that those with high Q12 scores exhibit lower turnover, higher sales growth, better productivity, better customer loyalty and other manifestations of superior performance. Marcus Buckingham’s comprehensive study of 108,000+ employees in a variety of industries obtained the following results for the levels of engagement:

- Engaged (loyal and productive) 26%
- Not engaged (putting in time) 55%
- Actively disengaged (spreading discontent) 19%

The relationship between engagement and performance at the business/work unit level is substantial and is highly generalized across organizations. Employee engagement is related to each of nine different performance outcomes, including productivity. This means that practitioners can apply the Q12 measure in a variety of situations with confidence that the measure captures important performance-related information.



7.2.1 Metrics

Q12 methodology was used to gauge employee engagement. Participating employees at each company rated their level of agreement with each question utilizing the following scale.

0 points	1 points	2 points	3 points	4 points	5 points
n/a	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree

The average response from all the company's surveyed employees was calculated to give the level of employee engagement for each of the 12 questions. The following chart provides a description of each level of employment engagement.

EMPLOYEE ENGAGEMENT CATEGORIES		
Category*	Scores	Description
ACTIVELY ENGAGED	4.5 - 5.0	Employees are emotionally committed to their work and to their organization all of the time. They are highly self motivated and really want to make a difference. They always exceed performance expectations. Their rate of absenteeism is well below industry averages.
ENGAGED	4.0 - 4.49	Employees are emotionally committed to their work and to their organization most of the time. They always meet and sometimes exceed performance expectations. Their rate of absenteeism is below industry averages.
DISENGAGED	3.0 - 3.9	Employees in this category show up to work regularly, but do just enough to get by. This group has been labelled by the term "presenteeism." They are at work physically but their minds are elsewhere. They like to take advantage of their allotted absent days.
ACTIVELY DISENGAGED	1.0 - 2.9	Employees are disinterested in their work and in their organization, and they actively work to undermine their fellow employees and their company by spreading malicious rumours, gossip, complaining and poor performance. They take full advantage of their allotted absent days and in some cases exceed them.

The following questions were used as the basis for evaluation each company.

Q01. Expectations. Defining and clarifying the outcomes that are to be achieved is perhaps the most basic of all employee needs and manager responsibilities. How these outcomes are defined and acted upon will vary from business unit to business unit, depending on the goals of the business unit.

Q02. Materials and equipment. Getting people what they need to do their work is important in maximizing efficiency, in demonstrating to employees that their work is valued, and in showing that the company is supporting them in what they are asked to do. Great managers keep this perception objective by helping employees see how their requests for materials and equipment connect to important outcomes.

Q03. Opportunity to do what I do best. Helping people get into roles where they can most fully use their inherent talents is the ongoing work of great managers. Learning about individual differences through experience and assessment can help the manager position people efficiently, within and across roles.

Q04. Recognition for good work. When managers ask employees who are performing at a high level whether they are suffering from too much recognition, they rarely, if ever, get an affirmative response. Another ongoing management challenge is to understand how each person prefers to be recognized, to make it objective and real by basing it on performance, and to do it frequently.

Q05. Someone at work cares about me. For each person, feeling "cared about" may mean something different. The best managers listen to individuals and respond to their unique needs. In addition, they find the connection between the needs of the individual and the needs of the organization.

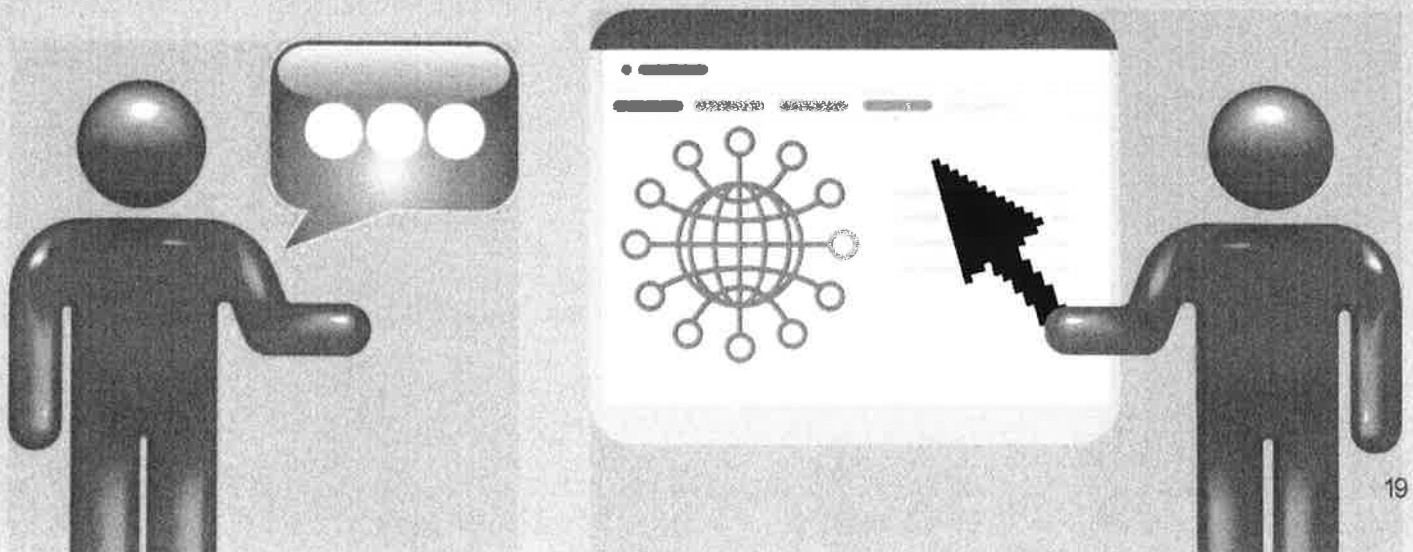
Q06. Encourages my development. How employees are coached can influence how they perceive their future. If the manager is helping the employee improve as an individual by providing opportunities that are in sync with the employee's talents, both the employee and the company will profit.

Q07. Opinions count. Asking for the employee's input, and considering that input as decisions are made, can often lead to better decisions. This is because employees are often closer than the manager is to individuals and variables that affect the overall system. In addition, when employees feel they are involved in decisions, they take greater ownership of the outcomes.

Q08. Mission/Purpose. Great managers often help people see not only the purpose of their work, but also how each person's work influences and relates to the purpose of the organization and its outcomes. Reminding employees of the big-picture impact of what they do each day is important, whether it is how their work influences the customer, safety, or the public.

Q09. Associates committed to quality. Managers can influence the extent to which employees respect one another by selecting conscientious employees, providing some common goals and metrics around quality, and increasing associates' frequency of opportunity for interaction.

Q10. Best friend. Managers vary in the extent to which they create opportunities for people at work to get to know one another, and in whether they value close, trusting relationships at work. The best managers do not subscribe to the idea that there should be no close friendships at work; instead, they free people to get to know one another, which is a basic human need. This, then, can influence communication, trust, and other outcomes.



Q11. Progress. Providing a structured time to discuss each employee’s progress, achievements, goals, and so on, is important for both managers and employees. Great managers regularly meet with individuals, both to learn from them and to give them guidance. This give-and-take helps both managers and employees make better decisions.

Q12. Learn and grow. In addition to having a need to be recognized for good work, most employees have a need to know they are improving and have chances to improve themselves. Great managers pick training that will benefit the individual and the organization.

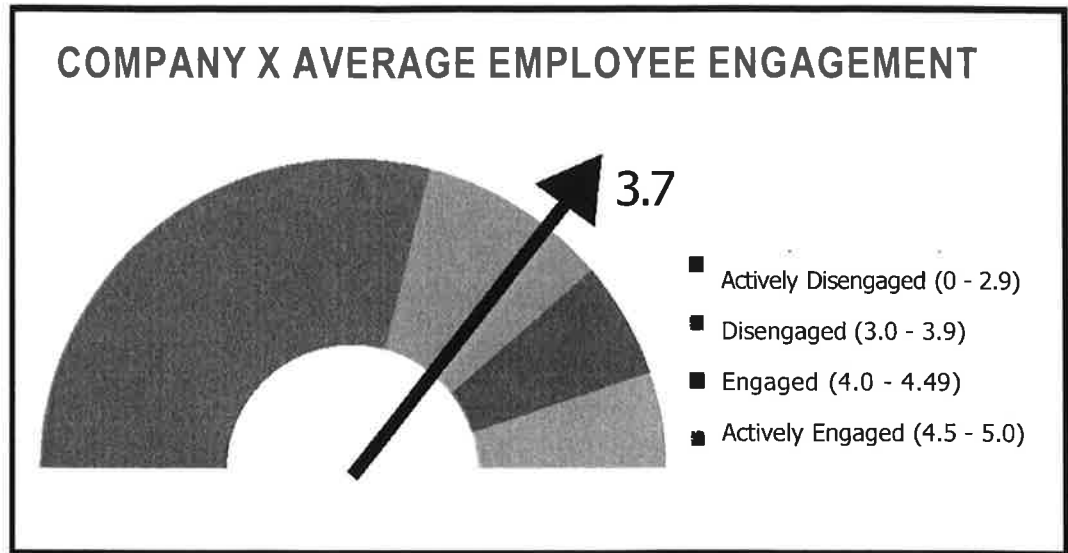
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7.2.2 Summary Report

Where Q12 methodology was utilized the results were tabulated in an Employee Engagement Summary table that was included in the detailed report provided to client. This provided a snapshot of the findings.

Employee Engagement Summary		
Company Name: Company X		Assessment Date: March 2011
Number of respondents: 10		
		Average Rating
Q1	Expectations	4.5
Q2	Materials and equipment	3.9
Q3	Opportunity to do what I do best	3.7
Q4	Recognition for good work	3.5
Q5	Someone at work cares about me	4.2
Q6	Encourages my development	3.5
Q7	Opinions count	3.6
Q8	Mission/Purpose	3.9
Q9	Associates committed to quality	3.9
Q10	Best friend	3.5
Q11	Progress	2.8
Q12	Learn and grow	3.2
-	Overall Average	3.7

Where Q12 methodology was utilized the company report included a graphical reference dashboard on employee engagement ratings:



7.2.3 Results

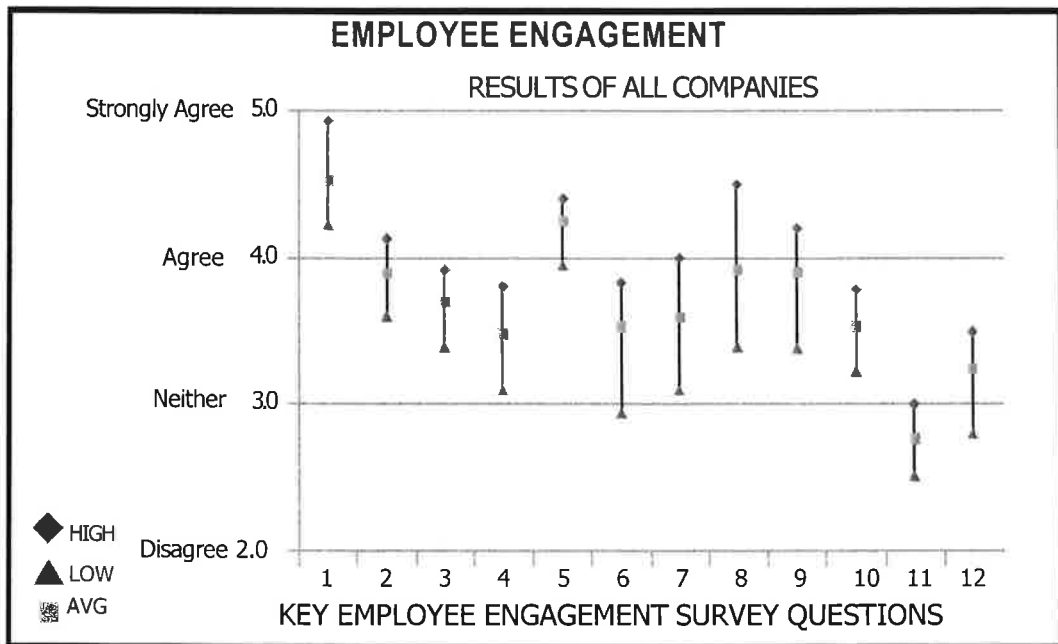
Even though the employee engagement survey was a limited sample there are a wide range of results from the responses. The results of the employee engagement indicate that on average participating employees and organizations are positioned as follows in the Q12 items, ranked from highest to lowest:

Ranking	Item	Average Rating
1	Q1 - Expectations	4.5
2	Q5 - Someone at work cares about me	4.2
3	Q2 - Materials and equipment	3.9
4	Q8 - Mission/Purpose	3.9
5	Q9 - Associates committed to quality	3.9
6	Q3 - Opportunities to do what I do best	3.7
7	Q7 - Opinions count	3.6
8	Q4 - Recognition for good work	3.5
9	Q6 - Encourages my development	3.5
10	Q10 - Best friend	3.5
11	Q12 - Learn and grow	3.2
12	Q11 - Progress	2.8

7.2.4 Analysis

Respondents overwhelmingly indicated that they know what is expected of them in their jobs but they just as overwhelmingly did not have opportunities to discuss their progress. The average of the 12 questions from the small sampling of companies was 3.7 - in the disengaged range – mirroring the 55% of respondents to Marcus Buckingham’s survey. Experience shows that employee engagement is critical to any initiative and this was one of the reasons that the “Maximizing Employee Contributions” workshop was delivered as part of this project.

The results of the employee engagement survey are also confirmed by the input received by the one hundred industry and community leaders that participated in the Eastern Ontario Productivity and Innovation Symposium. At this symposium participants identified that the core elements of employee engagement were also the key barriers to organizations to make exponential leaps in productivity, innovation, influence, outreach, and profitability. Research by Gallup and others shows that engaged employees are more productive. They are more profitable, more customer-focused, safer, and more likely to withstand temptations to leave.



- | | | |
|--------------------------------|-----------------------------|-----------------------------------|
| 1) Know the expectations of me | 5) Someone cares | 9) Committed to Quality |
| 2) Have Resources needed | 6) Encourage my development | 10) Best friend at work |
| 3) Opportunities to do my best | 7) My opinions count | 11) My progress is talked |
| 4) Received recognition | 8) Feel my job matters | 12) Opportunities to learn & grow |

8 Project Themes

The project intent was to identify "Best Practices" however during project review and debriefing with jump team assessors it became readily evident that "Best Practices" are company or process specific so it was decided to focus on "Common Themes for Improvement" and these were further identified as follows:

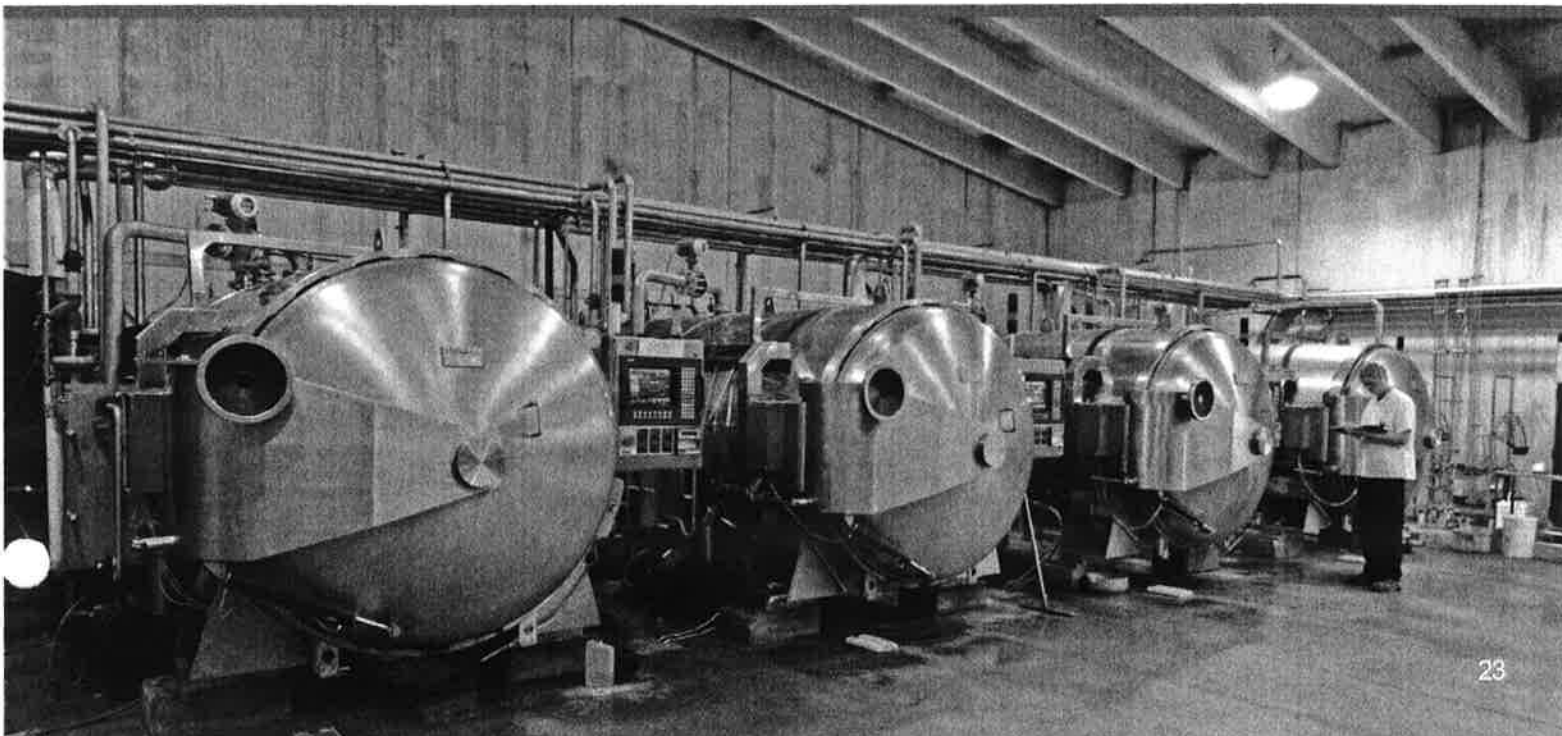
8.1 Themes from the Jump Team process

- The "Jump Team" approach provided immediate and effective results in a compressed assessment period that was attractive to the companies as well as providing a new model to the assessors for conducting assessments
- There were many opportunities to improve productivity with little or no cost and minimal time and effort to implement; other improvement initiatives will require more time, effort, and money
- Immediately following the assessment the majority of, if not all, companies visited had started an implementation process, they were eager to start realizing some of the opportunities that were revealed to them through the third party assessment
- An important factor in the cooperation received from the participating companies was the existing relationship with the team (assessor, economic development offices, manufacturing association or training group). This pre-established relationship was critical in ensuring participation given that this was a new project and the clients did not have a full understanding of what to expect from the process

8.2 Themes from Company Assessments

Assessment Process:

- An existing relationship with the local business development team (assessor, economic development offices, manufacturing association or training group) was key to successful assessments
- Assessment without clear follow up action to eliminate losses is simply additional waste
- Most participating companies do not currently have the resources to pay the full or partial cost to conduct external assessments



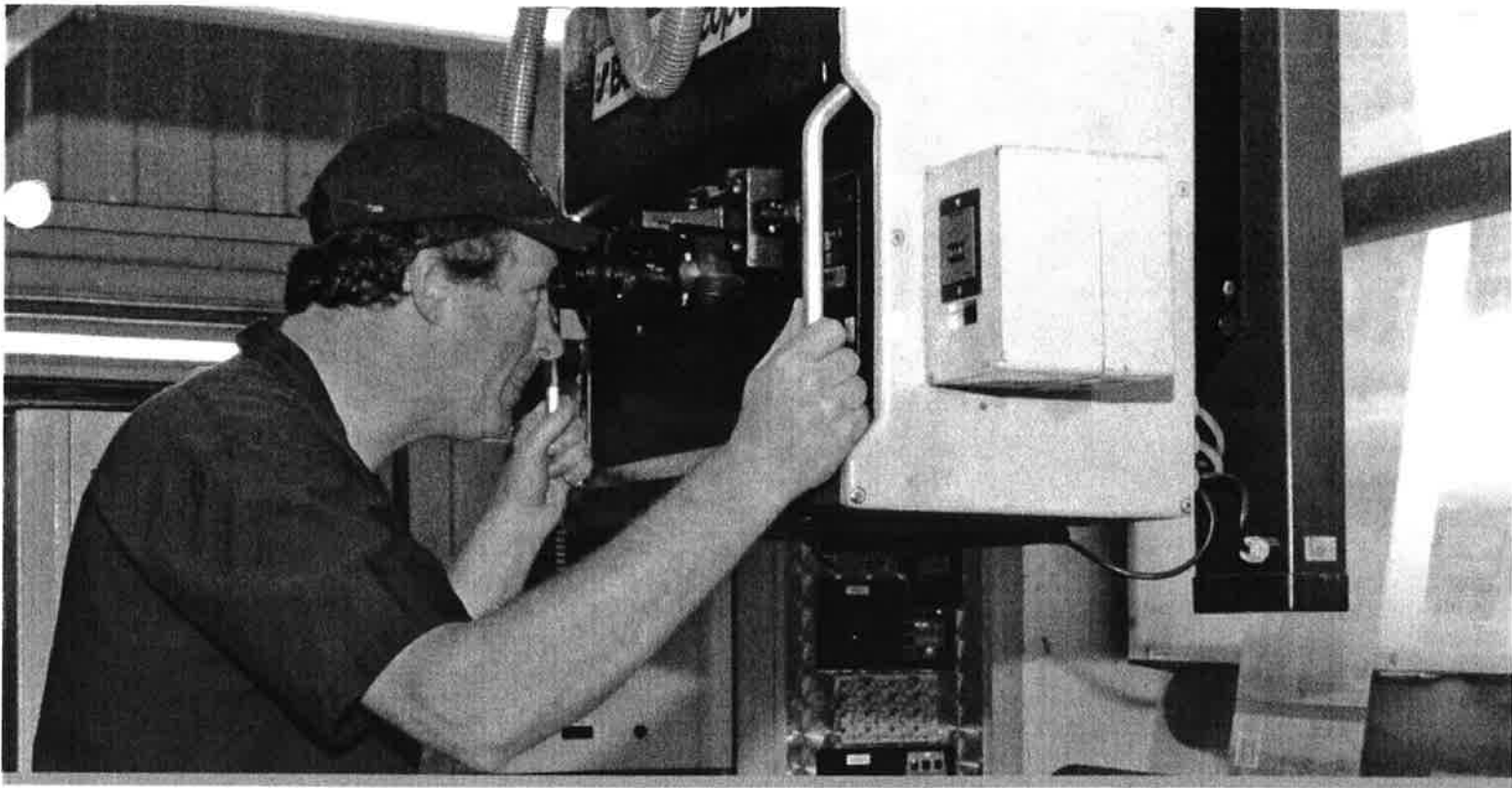
Productivity:

- Most companies are so focused on daily operations that they are not looking forward past the short term. To increase productivity they need to think longer term
- Setting longer term productivity measures, goals and action plans is essential to improving manufacturing capability, competitiveness and sustainability
- Companies that follow an improvement 'journey' are achieving success
- Key productivity improvement activities assessed so far show that most plants are rating highest in safety, quality activities but lagging in the other more "bottom-line" productivity specific metrics (productivity, cost and morale)
- Need to continue with good safety practices as a foundation for improved productivity
- Consistently there was no evidence of any planned action focused on eliminating effort-based losses, the non value added efforts present in a process
- Companies are not always identifying sources of waste or ways to improve.
- Many companies don't realize that managing problems (being reactive) versus eliminating sources of waste (being proactive) takes more time, effort and money
- Employees don't understand customer value well enough or their own supply chain path to their customers. There is a need to raise 'customer' awareness to ensure that activities are customer driven and focus on the customer's needs.
- Most plants can benefit greatly by improving their equipment "Rapid Changeover" capabilities

Employee Engagement:

- Positive morale is a key enabler to achieve productivity and profit improvements
- Manufacturing workers need training on what productivity is and how to identify and eliminate the wastes or losses related to productivity
- It is important for management to have an appreciative mindset to improve employee engagement
- The assessment of employee engagement is an essential part of any innovation and productivity improvement process
- For optimal results companies need to support a corporate culture that integrates productivity, employee engagement, problem solving, innovation and continual improvement
- In order to foster innovation in workplace and work practices the following must be implemented:
 1. Teach people how to improve
 2. Set the expectation that we all must always improve to improve our competitiveness and to secure our futures
 3. Innovation is not just a technology or materials based, continually improving our existing manufacturing processes and our work methods IS innovation by definition AND it pays equally well - usually even better!





9 Support Programs and Resources

Manufacturers are advised to establish relationships with representatives from the following groups. They have access to a vast network of resources that may be of benefit to companies as they implement their productivity improvement plans.

9.1 Economic Development Officers

Municipalities and agencies across the study area employ professional economic development practitioners who are available to work with manufacturers to identify municipal, provincial and federal resources and also to facilitate development and improvement through a variety of business retention and expansion programs.

9.2 Manufacturing Associations

There are three active manufacturing associations (Quinte, Northumberland and Kawartha) in the study area. All work together and independently to support manufacturers by offering workshops, events and an organized structure for action - and a common voice to assist communities in leveraging training and other support funding.

Quinte Manufacturers Association:

c/o Quinte Economic Development Commission

Tel: 613.961.7990

Email: info@quintedevelopment.com

Northumberland Manufacturers Association:

Tel. 905-372-8315 Ext. 242

Email: charlene.smith@thenma.ca

The KMA (Kawartha Manufacturers Association):

Tel: (705) 743-0777 ext. 2126

Email: info@thekma.com or llauzon@gpaedc.on.ca

9.3 Provincial & Federal Government Agencies

A number of Provincial and Federal government agencies can provide assistance to companies looking to improve productivity. The government also looks to outside agencies such as the Canadian Manufacturers and Exporters, Ontario Chamber of Commerce and the Yves Landry Foundation to deliver select programs.

A partial list includes:

Ontario:

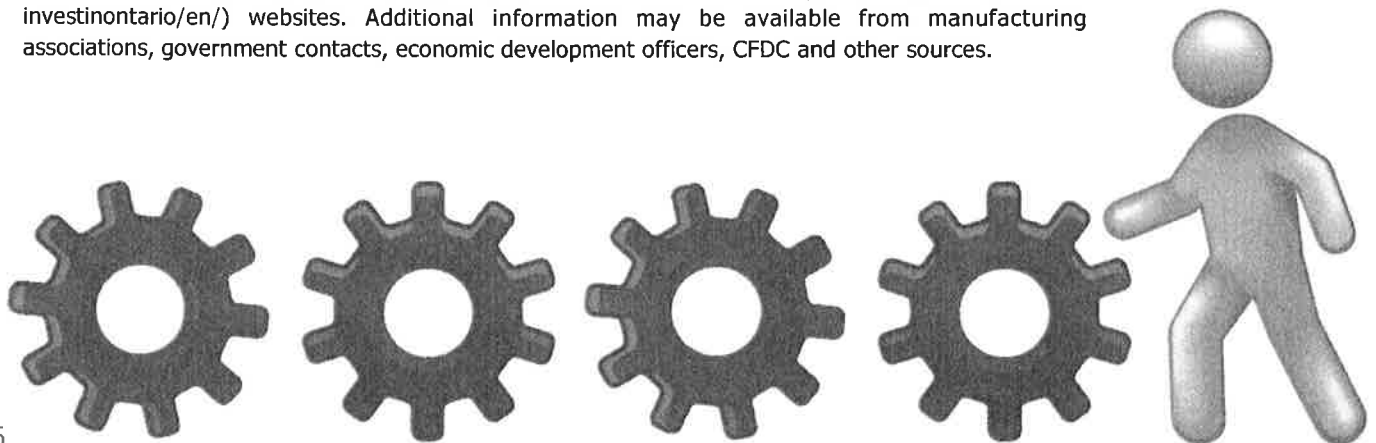
- Ministry of Research and Innovation - MRI offers funding programs and administers the Ontario Network of Excellence, which works directly with entrepreneurs, academia and businesses to build globally focused, investor-ready companies. MRI supports innovators (researchers, entrepreneurs, businesses) at all stages to help bring unique products and services to market
- Ministry of Economic Development and Trade - MEDT offers a series of programs and partnership opportunities to help business, industries and communities grow an innovative, sustainable and competitive Ontario economy. MEDT also administers the Ontario Business Program Guide and the Small Business Enterprise Centres
- Ministry of Agriculture Food and Rural Affairs - OMAFRA offers funding targeted at supporting Ontario's food industry as well as its rural communities. They also have a large resource pool of experts and literature that may be of interest to food processors.

Canada:

- National Research Council of Canada (Industrial Research Assistance Program) - NRC-IRAP provides support to small and medium-sized enterprises (SMEs) in Canada in the development and commercialization of technologies and products.
- Federal Economic Development Agency for Southern Ontario - FedDev Ontario programs support economic and community development, innovation, and economic diversification, with contributions to communities, businesses and non-profit organizations.
- Community Futures Development Corporations - CFDC's provide their communities with a variety of services including business development loans, technical support, training and information. Additionally CFDC's involve themselves in a wide array of community initiatives, including strategic planning processes, research and feasibility studies, and the implementation of a diverse range of community economic development projects.

9.4 Provincial & Federal Government Programs

A fairly extensive list of government grants and financing programs can be found on the Canada Business (www.canadabusiness.ca/eng/82/) and the Invest Ontario (www.sse.gov.on.ca/medt/investinontario/en/) websites. Additional information may be available from manufacturing associations, government contacts, economic development officers, CFDC and other sources.



10 Recommendations

The following recommendations were developed over the course of this project using input received from assessors and from the manufacturers during the assessments, at the symposium, at the Pathways to Productivity event and from a variety of other communications.

Industrial Support:

- Support manufacturers as they address the symposium findings. Manufacturers need to be working at all three levels, the mechanistic, the innovative and the energetic (see appendix A). Systems (mechanics) are essential to providing a strong underpinning for a company's growth, innovation is essential to ensure companies grow and don't stagnate and most of the issues identified by symposium attendees as necessary to move substantially forward are at the energetic (infinite possibilities) level.
- Expand the Manufacturing Jump Team pilot project to a longer term, more strategic project that will conduct additional assessments, provide follow up coaching to assist companies with implementing the assessment findings, and provide opportunities for collective learning experiences including investigating alternative delivery methods to expand outreach such as online delivery and virtual world technologies.
- Provide opportunities for affordable collective and company specific training related to productivity and innovation.
- Build the community's employment base by supporting manufacturing attraction efforts targeting industries focussed on productivity and innovation complementing emerging community focus on these attributes

Communication:

- Celebrate the manufacturing community's successes to showcase efforts and results related to improving productivity and innovation. These sharing opportunities can be both informative and educational.
- Highlight manufacturing's importance to our communities. There is not widespread knowledge of manufacturing's impact on the prosperity, economic well being and wealth of our region.
- Use manufacturing associations for sharing ideas and knowledge between members and associations. Use these associations to leverage regional improvements in productivity and innovation.
- Present findings of this project to the respective manufacturing associations to align with and support development of their strategies.
- Brief ministry officials on the positive impact of this pilot project, the assessments and the opportunities for future initiatives to support productivity and innovation development in Eastern Ontario.

Partnerships:

- Leverage the assets of organizations like Canadian Manufacturers and Exporters (CME) and other regional industry support agencies
- Continue to partner and expand relationships with established centres of excellence and post-secondary institutions like the Loyalist College to ensure talent development, special training and workforce improvement opportunities are relevant and available
- Continue to work with LTKC to develop and deliver training programs related to productivity and innovation.

Funding:

- Secure multi-year funding support for the MRC to be a regional coordinating body with a renewed emphasis on developing and implementing activities that supports manufacturing productivity and innovation.
- Access support funds for workplace learning and performance activities related to the five productivity metrics used in this report
- Access funding programs for manufacturers that assists with implementing new processes, technology, systems, and innovation