Are you a world class manufacturer?
Are you a World Class Manufacturer?

In this article INTENT Group Limited (INTENT) experts explore what it means to be World Class and what this means for manufacturing in New Zealand.

WHAT IS WORLD CLASS?

World Class does not necessarily mean being the best in the world at everything – just being better than your competition at the things that matter to your customers to gain market share and grow the business.

Having World Class Manufacturing at the operational heart of a company is critical to an organisation’s ability to achieve the level of cost, working capital investment and service needed to achieve sustained profitability.

We understand that this is easier said than done – manufacturing organisations can be very complex.

An organisation that is able to adapt quickly to a dynamic environment is creating a sustainable competitive advantage.

So what are the typical attributes of World Class Manufacturing? See if you can check ‘yes’ for your organisation:

- Business strategy aligned with manufacturing strategy
- Manufacturing strategy cascaded into KPI’s throughout the organisation
- Aligned cross-functional KPI’s
- Decisions delegated to the lowest level
- Focused on building leadership capability
- Standardised and measured processes
- Zero waste focus
- Agile and flexible
- Delivery on time, in full and in spec
- Continuous improvement at core
- Appropriately skilled workforce

Using World Class is:

Outperforming all competitors in the customer’s order winning variables;

Being World Class: Outperforming all competitors in the customer’s order winning variables; Having empowered employees, supported by management systems, to enable continuous improvement; Ensuring everyone is focused on the common agenda of survival, then growth, through continuous improvement - for everyone involved.
How is New Zealand Incorporated Performing?

New Zealand is ranked 23rd in the OECD for GDP per person, down from 2nd in 1973. We’ve fallen behind all of our major trading partners.

The graph below demonstrates the huge variation in performance across the various sectors in New Zealand. Notably Fonterra, Fisher and Paykel Healthcare (and some others) outperform the average significantly.

- While Fonterra may look good compare that to Google at US$1,190,000, Amazon at US$1,010,000 or Facebook at US$920,000 and you can see the opportunity is massive.
- Not all manufacturing companies are performing to the same level. For example, Fonterra is outperforming average food manufacturing by three times. If all companies performed at this level NZ GDP would world rank in the top 10.

“All human progress depends upon unreasonable people asking for unreasonable things”

- George Bernard Shaw (adapted)
What are World Class operations focusing on?

There are three main focus areas for World Class operations: Strategy, Customer Focus and People.

1. STRATEGY

World Class operations have long term strategic objectives that are pursued with diligence and are not sacrificed for short term profits. They have:

- Business goals aligned throughout the business through strategy development and adherence to the plan.
- A vertically integrated World Class Supply Chain.
- Company structures which enables quick decision making and flexibility of production.
- Control of manufacturing operations by keeping them in NZ where possible and outsourcing processes with high labour content.
- A very high percentage of their earnings from exports. Typically start exporting early in their business life cycle to drive growth and innovation. Examples include Tru-Test, Fonterra, Gallaghers, Tait Electronics, F&P Healthcare.

2. CUSTOMER FOCUS

World Class operations also:

- Have a few products in which they dominate their niche market.
- Deeply understand their customer needs and use this to develop a competitive advantage through innovation and customisation.
- Offer knowledge and services to their customers that extend beyond the product offering.

3. PEOPLE

They also:

- Have a highly skilled and highly motivated workforce which delivers on the strategy.
- Are committed to attracting and developing talent to deliver innovation and improvement.
- Have strong leadership that provides vision, clarity and results.
- Have a culture of constantly challenging the status quo and achieving stretch goals.

An example of the importance of people is the ‘Global Manufacturing Competitiveness Index’ which surveys more than 550 senior manufacturing executives and ranks the key drivers that impact a country’s manufacturing competitiveness.

They state that the number one rank is talent driven innovation through quality and availability of researchers, scientists, and engineers, as well as quality of skilled labour. See the table on the next page.

<table>
<thead>
<tr>
<th>Overall rank (1-10)</th>
<th>Overall Index score</th>
<th>Main driver</th>
<th>Most important sub-components</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.00</td>
<td>Talent-driven innovation</td>
<td>Quality and availability of researchers, scientists, and engineers</td>
</tr>
<tr>
<td>2</td>
<td>8.42</td>
<td>Economic, trade, financial and tax system</td>
<td>Tax rate burden and system complexity</td>
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<tr>
<td>3</td>
<td>8.07</td>
<td>Cost and availability of labour and materials</td>
<td>Cost competitiveness of materials</td>
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<td>4</td>
<td>7.76</td>
<td>Supplier network</td>
<td>Cost competitiveness of local suppliers</td>
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<td>5</td>
<td>7.60</td>
<td>Legal and regulatory system</td>
<td>Stability and clarity in legal and regulatory policies</td>
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<td>6</td>
<td>6.47</td>
<td>Physical infrastructure</td>
<td>Quality and efficiency of electricity grid, IT and telecommunications network</td>
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<tr>
<td>7</td>
<td>6.25</td>
<td>Energy cost &amp; policies</td>
<td>Cost competitiveness of energy, Ongoing investments to improve and modernise energy infrastructure</td>
</tr>
<tr>
<td>8</td>
<td>3.99</td>
<td>Local market attractiveness</td>
<td>Size and access of the local market, Intensity of local competition</td>
</tr>
<tr>
<td>9</td>
<td>2.48</td>
<td>Healthcare system</td>
<td>Cost of quality healthcare for employees and society, Regulatory policies (e.g. pollution, food safety, etc.) that are enforced to protect public health</td>
</tr>
<tr>
<td>10</td>
<td>1.00</td>
<td>Government investments in manufacturing and innovation</td>
<td>Government investments in R&amp;D: science, technology, engineering and manufacturing, Private and public sector collaboration for long-term investments in R&amp;D; science, technology, engineering and manufacturing</td>
</tr>
</tbody>
</table>


The most dangerous kind of waste is the waste we do not recognise - Shigeo Shingo
The hidden factory

Do you have a production line or work centre that runs 5-7 days a week, 24 hours a day? Are your sales increasing or is seasonal variation hurting your production efficiencies? Where to next?

If you can implicitly understand your manufacturing operation you are essentially being given the keys to your new factory! This will not only give you the capability to handle sales increases without capital expenditure, it will also give you the flexibility to scale down in the quieter times as well. This is a major competitive advantage that is harnessed by World Class Manufacturers and differentiates them from the pack.

So before you run out and invest in more equipment, ask yourself if you truly understand the true capability of your work centre and have done all you can to exploit it?

How do we find our hidden factory?

The best companies focus on maximising capacity available through applying best practices and ensuring reliability in design, operations and maintenance, through debottlenecking. They then use that capacity to go after additional market share, with little or no capital investment. They can also rationalise underperforming assets without risking delivery to the customer.

World Class companies also focus on improving the reliability of their production operation, therefore improving performance for the assets and ensuring lower unit costs of production. The strategy isn’t focused on cost cutting, rather on best practices and processes. Good practices and reliable operations reduces operating costs and unlocks hidden potential.

Steps to manufacturing excellence and your hidden factory:

1. Determine where you are compared with the best
2. Determine where your losses are compared to ideal circumstances
3. Compare your practices with best practices

By creating extra capacity, options such as shutting down the poorest performing plant in the system, or reducing working hours in the short term until the market share increases, are generated. This has major competitive advantages such as reducing the operating and maintenance costs and also gives the capability to respond to the market with new and existing products, without extra capital investment.

If you are running at 50% efficiency then there is a 100% opportunity to improve

The concept of World Class allowed the organisation to scale down and become more effective.

Points of difference built on World Class practices:
- World leading R&D that has produced, and continues to produce, product technologies that add real value to customers and have been unmatched by competitors over time
- Focus on strong distribution partnerships and in-market relationships – built over a long history
- A portfolio of brands that can be used tactically to support distribution strategies in different markets
- Trusted, credible brands that are renowned worldwide for quality and reliability
- World Class lean manufacturing processes that enables the company to manufacture primarily from New Zealand whilst maintaining global competitiveness

Of course, World Class Manufacturing is not the only strategic option available to firms hoping to become more competitive. Outsourcing is an alternative and, indeed, several notable New Zealand companies have shifted their manufacturing facilities offshore. The reality is that there have been issues with that approach for a number of companies. These include maintaining quality control, control of the supply chain and even control of the innovation and ideas. So the attraction of low cost offshore manufacturing often has some serious complications.

However, if you’re in a commodity environment and there is a lower cost producer in the world, your choices are to discover how to become a better lower cost producer, or effectively lose that part of your business, if not your entire business. This manufacturer has chosen to become a better low cost producer - here in New Zealand.

Of course, New Zealand manufacturing and New Zealand organisations have been slow to adopt what is now commonly accepted as best practice. It’s a strategic competitive advantage if you understand what the best practices in your industry are and adopt them rigorously and relentlessly through your business.

CASE STUDY

Facing adverse exchange rates for an exporter and strong competition from offshore, a New Zealand production plant wanted to improve its business performance through manufacturing excellence.

The transformation began with a focus on improving customer service, reducing inventory levels, improving skills and flexibility, and integrating and streamlining its manufacturing processes.

The CEO acknowledged the need for manufacturing organisations to be lean, particularly when based in New Zealand and exporting to many countries. Facing aggressive competition, the company identified the need for lower costs and an efficient manufacturing base. The concept of World Class allowed the organisation to scale down and become more effective.

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1 True production efficiency = current production rate as a percentage of the machine rated maximum rate of the constraint in the system.

1 Excerpts from ‘Making Common Sense Common Practice’ - Ron Moore
Journey starts with the first step

Being a World Class Manufacturer depends on a deep understanding of:

• The business strategy (What are we trying to be for which customers? What are the characteristics of our product that offer a competitive advantage? How do we deliver this at the lowest cost?)

• The manufacturing strategy. How do we achieve the business strategy? Are we a high volume continuous high capital manufacturer, or batch semi continuous moderate capital, or assembly, or job shop? The type of investment in capital and people varies dramatically between these and the level of agility to new competitive threats and innovation also varies depending on the manner in which we adapt our manufacturing strategy to best meet our consumer needs.

• Our current capability in terms of throughput, response to unplanned change, ability to meet demand variation and adaptability of people to the changing landscape.

• Our current performance in terms of delivering customer requirements, material and energy usage, skills development and retention, and asset life management.

• Our competitors’ performance and our customer and consumer satisfaction with the performance of our product.

• The level of resilience of the organisation, how well we have captured and embodied process and technical knowledge into the business to avoid business risk, or worse, customer complaints. The key here is to determine if your business is dependent on a few critical people who have most of the knowledge.

In understanding the above we need to develop key process KPI’s to measure the performance and set targets to raise the baseline.

• We need to develop processes to manage the measures and identify deviations to enable the team to improve their performance, and we need to ensure regular feedback and support to achieve these improvements.

• Establish projects around specific opportunities to deliver specific improvements.

• Engage all levels of management in supporting the improvement process through structures and follow ups. These need to be systemised to ensure that they are not dependent on managers, but on the business.

• Celebrate success.

Good luck on your journey!

Developing a World Class organisation can be a complex journey. INTENT Group Limited is able to assist those with a need to improve and a will to develop their capability. INTENT typically assist clients through a broad five step process of:

1. **Awareness**
   - What do the best companies do well?

2. **Assessment**
   - How and where do we start on the World Class Journey?

3. **Improve Performance**
   - Getting immediate results now

4. **Grow Capability**
   - Maintaining improvements through skills development

5. **Sustain**
   - Sustaining a culture of continuous improvement
Wherever you are on your journey, view our website on www.intentgroup.co.nz or contact us on 09 523 0366 and ask to speak with one of our team for a discussion on how we can help you achieve your manufacturing goals.

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Ian has over twenty years’ experience in World Class Manufacturing throughout the world. He has worked in a range of industries and his experience includes continuous, batch, job shop and assembly environments. Ian’s key focus is helping manufacturing organisations to deliver sustained performance improvement through hands on application of proven methodologies and practical on the job training.

Tom Street
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A trained engineer, Tom has significant experience as a consultant and senior line manager. With his strong practical skills and significant supply chain and business knowledge, Tom works with clients to deliver improved and sustainable results through the application of strong methodologies, processes and techniques.

Kelvin Grey
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Kelvin holds a degree in manufacturing and industrial technology. He has considerable experience in production engineering and production management in a World Class Manufacturing environment. Kelvin exceeds desired results with his ability to successfully communicate with staff at all levels within a company, and analyse processes using advanced manufacturing principles.

Nick Brownsword
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Nick has a strong background in project management and continuous improvement. He has experience with a range of operationally focused industries using Six Sigma and lean tools and techniques. Nick has worked in a range of industries including consulting, manufacturing, supply chain, information and communication technology and government.

Neil Robinson
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Neil has 25 years of NZ manufacturing experience and significant capability with contributing to improvements in system design, waste reduction and productivity advancement. His broad experience includes individual component manufacture, production machine setting supervision, tooling design, production machine design and build, production engineering, maintenance supervision and much more.

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John’s experience spans 20 years in the engineering industry, including fabrication and plant design, and performance improvements in metal finishing and maintenance. After spending 11 years in the education sector, his experience with NZQA and unit standard requirements has been integral for INTENT’s development of assessments for a number of courses.