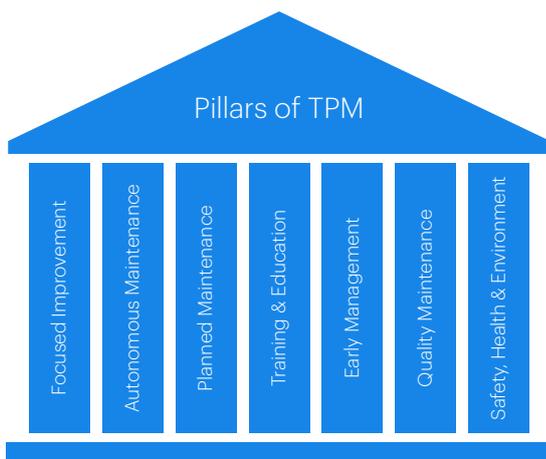


# Overall Equipment Effectiveness (OEE)

## So, what is it? Key measurement or just a manufacturing concept? Is it relevant to construction?

In these commercially challenged times we are under more and more pressure from our clients to deliver “more for less”. However, with challenging targets and tight programme objectives to be achieved, it’s difficult to understand how we can achieve them without increases in time and resource.



## Key measurement

OEE is a key measurement in the improvement approach called Total Productive Maintenance (TPM). TPM is used to improve the capability of a company’s equipment. It is a production driven methodology that drives to optimise equipment reliability and ensure effectual management of assets using employee involvement and empowerment.

It has several waste reduction goals, including keeping equipment working at its optimum capability with timely remedial works and maintenance. A clear definition of how equipment should be operated to reduce variation of output is necessary; incorporating safety checks, visual controls and mistake proofing of devices in daily work.

TPM also looks at the design of the equipment to hone its capabilities in line with the business requirements.

None of the above can be effective without a way to measure and denote a change to optimum conditions.

When we look at OEE there are three factors that are considered:

- Performance – a comparison of the actual output with what the machine should be producing or achieving in the same time
- Availability – a comparison of potential operating time and the effective working time of the machine
- Quality – a comparison of the output/products made by the machine to the output/products that meet the required specifications

When you multiply these three factors you get the Overall Equipment Effectiveness which is a great indicator of machine/equipment health.

## Manufacturing Concepts in Construction

Is there such a thing as a manufacturing concept? Or are there just concepts or perhaps improvement approaches? The lines between industries are becoming even more blurred.

If you look at the Construction industry, some of the key business concepts that are currently being employed to be more effective are site based factory thinking, modularisation and offsite manufacture. This further extends to how site waste is being segregated and subsequently processed.

I am not suggesting that a construction site is exactly like a manufacturing facility in the way that it operates or should operate, nor am I suggesting that the construction industry and construction processes do not present a unique set of challenges. However, I do challenge that improvement concepts are unique to a single industry and that the same concepts cannot be applied to good effect across all industries.

## Examples of OEE in Construction

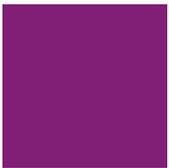
**Off hire of equipment** – OEE could be used to support off hire of equipment decisions. There are many instances across the industry of diminished functioning of hired equipment.

**To support planned use of costly equipment** – such as cranes, trenchers or pipe welders

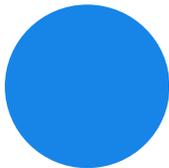
**Support Plant maintenance/replacement schemes** – setting of control limits for planned maintenance and strategic decision making

**Benchmarking** – equipment effectiveness across projects and programmes.

**Optimising Material Recovery Facilities (MRF's)** – OEE can be a good health indicator that could monitor the effectiveness of improvement activities.



Understand



Collaborate



Improve

## Our Approach

At Bourton Group, we don't just try to fit a business to an improvement concept! We seek to gain a deep understanding of your business, your aims and your goals and then tailor our approach and the improvement tools and concepts we utilise, to support attainment.

Through deep understanding, we collaborate with clients and colleagues to create improvements that become culture.

**Understand** – We look harder and listen more intently than our peers to understand our client's unique business problems.

**Collaborate** – We work together with our clients and their colleagues to make their business better.

**Improve** – We help businesses to improve, and help them to make those improvements last.

Our approach is results driven, adaptable and proven to deliver significant, measurable benefits in the performance of people, processes and operations. "We help fix businesses and equip teams to keep them fixed."



Arran McDonald, Senior  
Consultant – August 2017

Arran has 20 years' experience of working in the field of improvement, the latter part specifically in the construction sector, where he has worked on a wide variety of projects in various sectors of the industry such as Housing (building, Estate management), Highways, Water (Clean and Waste), Rail (HS2), Education, Healthcare, prisons, nuclear, building refurbishments and regeneration projects to name a few.

Bourton Group has supported many businesses from a wide range of industries to implement Lean improvement techniques via tailored engagement programs.

We work collaboratively to deliver on efficiency objectives and targets, with returns on investment of over 20:1 being reported, along with wider benefits of reducing waste, decreasing time to complete activities and improvements to quality – all of which have been directly attributed to Lean.