Interview by Peter Edwards, Global Cement Magazine

Achieving substantial gains through operational transformation at low capital expenditure

Cement producers around the world are under greater pressure than ever to maintain margins in light of difficult conditions in many markets. Once any apparent technical process solutions have been implemented, what else can be done to improve the performance of cement producers in terms of operational costs, suppliers, staff attitudes and management approaches? Here, we hear about the work of Alexander Proudfoot, a management consulting company with wide experience in the global cement industry, from Angus Maclean, the firm's Executive Vice President for Client Delivery, Europe.

***Global Cement (GC):* Can you outline Alexander Proudfoot and its work in the cement sector?**

Angus Maclean (AM): Alexander Proudfoot is a diverse management consultancy that works in a wide range of sectors. Alexander Proudfoot delivers transformational, lasting change in operations, organisational capability, productivity, profitability and growth.

I head up the construction and building material practices, which includes our work with cement sector clients. As in the other sectors that we work in, we design and implement operational transformation programmes that offer practical help for cement executives and enable them to instil disciplined execution at all levels of their organisations. We do this by engaging with staff at all levels, from the delivery driver to the board, to unlock anywhere up to Euro3/t of operational savings, without significant capital expenditure.

Geographically, we have worked on projects from the Arctic Circle to the bottom of South America and from the west of Canada to rural China. This has been for all levels of cement producer, from the largest multinationals like HeidelbergCement, LafargeHolcim, CRH and Cemex, through regional players to one-site operators in developing markets. We've partnered with these on a multitude of major improvement projects. These programmes have helped our clients realise tangible and sustainable increases of Euro1-3/t in earnings before interest tax, depreciation and amortisation (EBITDA) in as little as six months.

***GC:* How does Alexander Proudfoot operate?**

AM: We provide Operational Transformation in a shoulder-to-shoulder approach that we call Co-venture™. This is unlike many other management consultancy firms and is a fundamental difference in the way we perform our work. It is a key reason for the substantial benefits the programmes yield. Our core methodology is based on the P4 Approach: People, Productivity, Profitability and Predictability. Our teams, of which we have about 10, go into cement plants and join the plant staff or visit senior staff in their offices. We typically start our work with a business review, in which we analyse and define improvement opportunities on a rapid timeline with the client. We design a large-scale improvement programme with a scope that may include multiple sites, countries or regions. We agree on the benefits to be delivered, along with a timeline and roadmap.

With regard to operating the roadmap, we operate two linked processes that focus on the various 'technical' and 'tactical' soutions. Technical factors concern any aspect of the plant itself, as well as the management of processes, in both the plant and wider company. This may include answering questions like: *'Can we reduce the number of times we lubricate a particular gear?'; 'How do we streamline this conveying process?'; 'Do we really need this many different suppliers?'* Technical areas are often ones with which plant operators have better experience and often the plant will lead on the technical solutions that can be implemented.

Tactical factors, by contrast, can often be neglected by producers. They concern things like management's attitudes to the company, staff motivation levels and relationships with customers and suppliers. Such 'soft' factors can quickly affect the bottom line if they are forgotten about. Consultants can help provide focus on these sorts of areas.

***GC:* Can you give some recent examples?**

AM: Some recent examples from around the global cement industry include:

South America, 2016: Earlier in 2016 we completed a 24 week project for a South American cement plant, during which we had been asked to improve its maintenance and production costs. It had undergone a change of management in a fairly tough market and the new owner wanted to reduce ongoing maintenance costs.

When we started, the plant was in a poor state of repair due to poor implementation of existing practices and fairly low staff engagement. There was also an overlap of pre-existing cultures from the previous owners that threatened further confusion.

When we started, we first conducted a three week diagnostic study of the plant's operations. On the basis of this, we identified the changes that we could make to save the most money in the shortest time and for the lowest investment. This included everything from being more 'hard-nosed' with suppliers, optimising spare-part inventories and getting deep into the workings of the plant.

Over the subsequent weeks, our team conducted weekly consultations with the plant staff at all levels to help them identify and be proactive in coming up with their own, location-specific solutions. Once the project kicked off the staff were really proactive and motivation increased. They came up with suggestions on, for example, how to reduce maintenance duration, improve monitoring and implement preventative maintenance programmes to limit downtime. We looked at and implemented many of those changes, using our experience to identify where the largest gains could be made. At the end of the project, the plant was saving more than Euro2 on every tonne of cement produced, all with zero capex.

West Africa, 2015: In a contrasting example, we were asked to run a 30 week project for an African producer as part of a project to optimise its sales and general admin expenses. Unlike the South American example, this was about bringing the different working practices of board-level employees into line with each other to optimise processes at a company level. The producer, as it exists today, had previously been represented in the region by several different entities. There was considerable need to reduce departmental overlap, reduce head-count and look at supplier relationships. The project was also able to reduce the costs of production by more than Euro2/t over the course of the project.

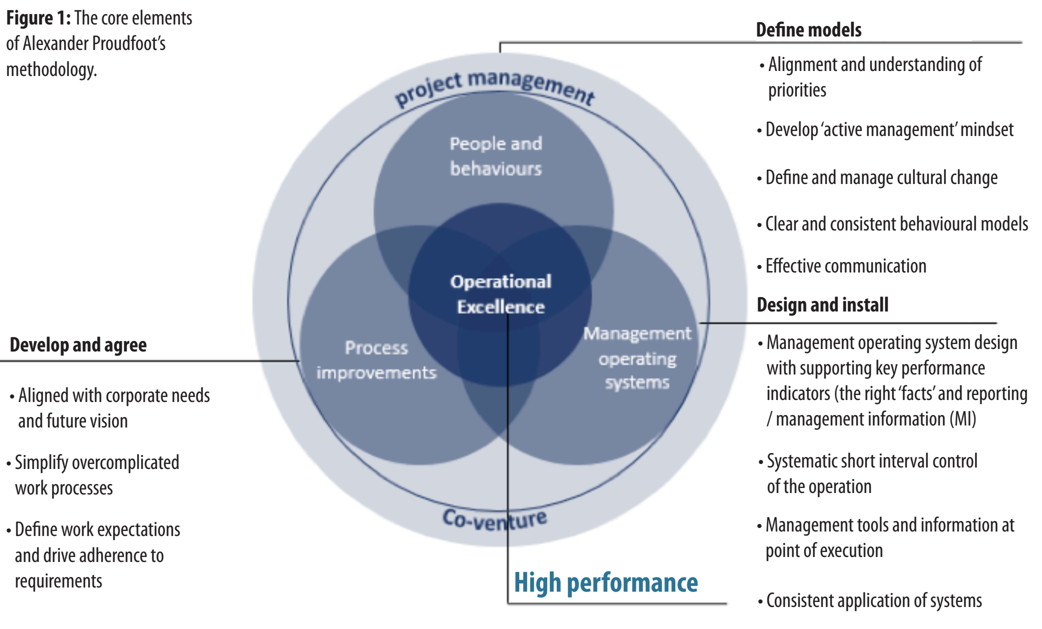
> *"All producers, whether big or small, are trying to become leaner..."*

UK, France and Poland, 2014: Elsewhere a European cement producer wanted to run a large project to optimise its operational performance, achieve supply chain excellence and reduce the cost per tonne across multiple cement plants in response to poor conditions across Europe. It needed to optimise its plants to meet its own internal investment criteria, which are fairly strict for the sector.

The project included reducing fixed and variable production costs, assessing head-count, reducing fixed and variable maintenance costs, as well as targeting procurement, energy, supply chain logistics and throughput. In total the operator was able to achieve more than Euro3/t across a number of 24 and 32 week projects.

China, 2013: We spent a full year helping a major Chinese cement producer to achieve operational and supply chain excellence across 20 cement plants. Our teams went all around China in three 'waves' of the

Figure 1: The core elements of Alexander Proudfoot's methodology.



Standard financial metrics	1. Revenue	↗
	2. EBITDA (%)	↗
	3. RONA (%)	↗
Operational KPIs	4. Sales & general admin (% of revenue)	↘
	5. Production costs (/t)	↘
	i. Alternative fuel usage	↗
	ii. Kiln efficiency	↗
	iii. Power consumption	↘
	iv. Clinker factor	↘
	v. Number of kiln stops	↘
	vi. Overall equipment effectiveness	↗
	6. Production volume (t)	↗
	7. Limestone addition (%)	
	8. Maintenance cost (/t)	↘
	9. Failure modes and effects analysis	↗
Operational KPIs	10. Labour utilisation and costs (Internal and contractors)	↘
Asset-based KPIs	11. Working capital / sales (%)	↘
Commercial KPIs	12. Sales volumes (t)	↗
	13. Real price increase (%)	↗
	14. Marginal contribution (%)	
	15. Invoice errors (%)	↘
Transport KPIs	16. Transport cost (/t sold)	↘
Behavioural KPIs	17. Leadership alignment	↗
	18. 7 Active Management behaviours	↗
	19. Management education, skills and coaching	↗

Right - Figure 2: Typical changes to Key Performance Indicators (KPIs) after a 24 week project that saves Euro3-5/t.

project, looking at ways to reduce fixed and variable production costs and achieving more than Euro3/t of savings overall. This is a huge amount when one considers the large capacity covered by the project.

While all of the plants were operated by the same producer, they were not all optimised in the same way. Each plant is different and, while the methodologies we use can be very similar, each plant needs to be looked at individually.

***GC:* Does Alexander Proudfoot have the capacity to suggest technical solutions or provide advice on return on investment for large technical projects?**

AM: We always emphasise a low or zero capex approach to improvement. In some cases, it is clear that a major new piece of equipment is necessary. However, in these sorts of situations, the cement producer is usually the initiator of such a major change. We take this into account in the improvement programmes that we develop together. We would never suggest a capital-intensive investment to a producer and would certainly not recommend specific technical solutions.

***GC:* Does Alexander Proudfoot have any markets where it has been unable to operate in so far?**

AM: Not really. We have worked in more than 45 different countries so far with cement firms, essentially everywhere we have been requested to. We review how safe it is before we send out teams to certain countries, as would any other company. In terms of entering new markets and expanding our expertise, we would like to do more in China and India. We have worked in both previously but there is incredible potential for savings in both countries.

***GC:* Has Alexander Proudfoot worked on the LafargeHolcim merger or HeidelbergCement's acquisition of Italcementi?**

AM: We have been involved in both of these deals, not on a global basis, but for specific individual integration projects in certain countries. Unfortunately I cannot go into more detail.

***GC:* Do cement producers look for the same types of consultation as other industrial players of similar size, for example oil producers or steel firms?**

AM: Every sector is slightly different and, at a macro level, there can be similarities between cement producers and other asset-intensive industries. However, the cement sector operates far more locally than, for instance, the oil sector. This relates to the cost of shipping cement around the world, which is high in relation to its value. In the case of the European producer mentioned earlier, we found that transportation issues were a major issue for the company in Poland but not in France. Indeed, we found that it was experiencing issues similar to those we had seen with other clients in Poland. In such cases, simply 'copy-pasting' the solutions from the French plant into the Polish plant would have been at best ineffective and at worst counterproductive. This is another reason why our programmes can be so effective.

Below: The successful cement producers of the future will need to be able to forecast the changes in the road ahead to best adapt to changing scenarios.

The photo shows a section of the kiln and a worker at the Grupa Ozarow cement plant in Ozarow, Poland, from the top of the preheater tower.

Source: Robert Nadratowski, entrant to the *Global Cement Photography Competition 2016.*

***GC:* What changes are you seeing at the moment in, for example, the types / sizes of cement companies, the locations of the companies coming to you?**

AM: Before the onset of the financial crisis in 2008 we worked with various types of cement producers all over the world. However, since margins have become squeezed we have seen an increase in demand for our services. This makes sense considering that we offer long-term savings for minimal investment. All producers, whether big or small, are trying to become leaner.

The recent trends for mergers and acquisitions also add to our workload in various countries. This trend looks set to continue and I think that the smaller regional producers will grow as they pick up assets from HeidelbergCement, Cemex and LafargeHolcim. As they become larger, these growing regional multinationals will start to change how they look at their assets and what they can do to optimise them.

***GC:* Do different sizes of companies want the same types of advice or does size matter?**

AM: Different clients require different services and advice. This can be due to their history, location, size and a number of other factors. For the larger producers it is hard to generalise because each of the major companies that we have worked with has unique ways of doing business. Some are very centralised and want to replicate processes and practices across all plants, be it in Germany, Turkey, the US or Vietnam. Similar equipment, the same training, the same shift patterns, same everything. This approach is strong on company ethos, and can make it easy for senior management to understand and use the tools at its disposal.

On the other hand, other multinationals don't want that kind of uniformity and prefer to treat their cement plants more as a portfolio. For them, as long as the plant performs to certain financial requirements, all is well. Most multinationals are in between these extremes to different degrees. We have to adapt our working practices to the clients, whatever the prevailing methodology. Sometimes, in merger and takeover scenarios, we have to help previously competing methodologies work together.

There is more similarity at the smaller end of the cement sector. One-plant operators typically ask us to review their 'end-to-end' process and identify opportunities across their value chain. This is usually with relation to fixed and variable production and maintenance costs and commercial excellence projects.

***GC:* What are the next big areas for management consultancy in the cement sector?**

AM: We see that market leaders are now more comfortable with stabilisation in their processes and profitability. This is an important change after many years of volatility. Through our ongoing research and engagement in the industry, we see strong opportunities for further development of management consultancy practices in the cement sector. In our discussions with senior leadership across the sector the common themes include the need for rapid change, increased predictability and increasing staff proficiency. In both developed and emerging markets, there are skills shortages looming in the years ahead. Talent is scarce and competition for talent at the first level of supervision is rising. Firms that have capable and proficient staff and management systems that address this talent shortage will lead.

Many clients are telling us that they have completed most improvement actions at least once and are now at a certain 'performance ceiling.' Many now want to make their operations more predictable. Instead of just reacting to sporadic commercial demands, day-to-day variations and challenges, the businesses that can accurately predict the demand on its plants, machines, transport and staff, are the ones that will perform the best. They are looking for tools to forecast cement demand and the supply of raw materials into their plants, plus fuel prices. This will enable them to optimise the plant and process, not just for today's levels of demand but for every possible set of demand and supply circumstances that may exist in the future. Producers that can navigate this 'road' of demand and can accurately forecast when to step on the gas or the brakes will come out on top in terms of margins, sales and profits.

***GC:* That sounds like a difficult target. How will companies achieve this level of performance?**

AM: Of course, 100% accurate forecasting is not possible in reality. However, by looking at increasingly smaller areas in each of the core elements of our methodology (Figure 1), producers can hone their performance. When they achieve excellence in all three areas: people and behaviours, management operating systems and process improvements, they give themselves the flexibility to rapidly adapt to the prevailing conditions and to make the best of them.

Remember, at the top end, the large multinationals are not only in a fight with other cement producers to sell cement. They are in a fight with other companies in other sectors to provide dividends to shareholders. Investors often don't care what a company does, but what it offers to them. If a cement company's key performance indicators (KPIs) don't fit the bill, they won't be as investable. There is far wider competition and it is why the multinationals will continue to lead the way in terms of management and operational optimisation.

***GC:* Thank you very much for your time.**

AM: You are very welcome.