

Interview by Peter Edwards, Global Cement Magazine

Uncovering potential with O&M contracts

Cement producers around the world are looking for measures how to improve productivity and lower operating and maintenance (O&M) costs, yet many are still resistant to external consulting. However, good results have been achieved by providers of specialised services, including full O&M contracts. In this interview we hear about the findings of a recent market report by Joe Harder, Managing Director of OneStone Consulting.

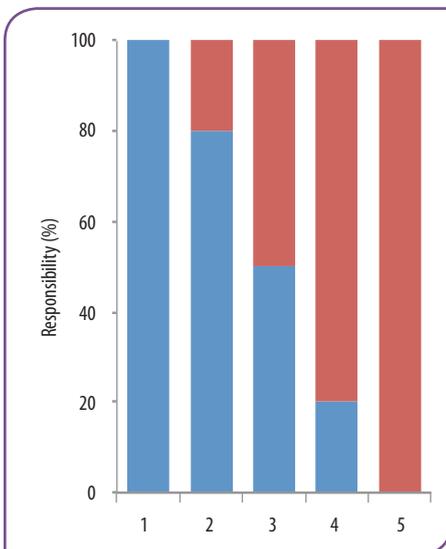


Above: Joe Harder, founder of OneStone Consulting.

Below - Figure 1: Different types of O&M contract put different levels of emphasis on the parties involved.

Supplier ■
Owner ■

1. Online support.
2. Technical Assistance (TA).
3. Technical Management (TM).
4. Full O&M contract.
5. Build-operate-transfer (BOT) or Build-own-operate-transfer (BOOT).



Global Cement (GC): Can you first briefly introduce OneStone Consulting?

Joe Harder (JM): OneStone Consulting was established 20 years ago in Hamburg in Germany. Five years ago the company moved to Barcelona in Spain. The main focus is on market research for the cement industry and other process industries such as mining and energy. Our clients in the cement industry comprise cement majors as well smaller cement producers around the world but most of our clients are cement equipment suppliers and engineering companies.

Before I founded OneStone 20 years ago, I was a process engineer, with 10 years as Research and Development Manager and Marketing Director within the UK-based Babcock International Group. I founded OneStone because there was a lack in market research analysis in the cement industry. Since that time I have worked for more than 50 international clients on more than 500 projects.

GC: Tell us about your multi-client market reports.

JH: With our market reports have always been on the forefront of topics in the cement industry. Our report 'Cement Projects Focus 2010' published in 2006 was already our third edition, long before other providers entered the market. We published 'Cement Substitutes Focus 2010,' which is still a foundational report when it comes to understanding the importance of the clinker ratio in cement. In the past few years we published reports on grinding equipment, cement pyro-processing systems and cement automation equipment, to name a few. At the time of publishing, each is unique in its respective field.

GC: How do you get the information?

JH: First, we work closely with clients, so they trust us and our market information and also supply us with reference lists and achievement records. Lots of our information is based on reference lists of suppliers. If we need more information, we do an intensive primary and secondary research online and interview the major players in the sector. The quality of the cross-checking of data in our primary research is, to the best of our knowledge, unparalleled worldwide.

GC: Your latest report is on O&M services. What are the main findings?

JH: Our report 'Outsourcing O&M 2017' is a brand new report and has just been released.¹ It was a particularly interesting project because there was not much qualitative and quantitative information available for O&M contracts in the cement sector up until now. This is astonishing because you can find this information fairly easily for the power and mining sectors. Secondly, you will also be astonished how many contracts have already been established and how many are active.

GC: Can you tell us the numbers?

JH: We found that since 1987, when the first contract was awarded, up to now, 102 service contracts have been awarded. In the last five years, 43 contracts were awarded, of which 23 are still active. The spectrum of contracts mostly covers complete plant management, however quarry operation, grinding plant or packing plant operation are also covered in many of them.

If we look just at the past five years, 54% of the contracts were made with plants in Africa and 23% were made with plants in the Middle East. However, the share of plants in other world areas, including Europe, is growing. What is also interesting is that five suppliers comprise almost 90% of the market when we include O&M contracts, Technical Assistance (TA) and Technical Management (TM) contracts.

GC: Can you please explain in a bit more detail?

JH: All these different contact types depend on the level of involvement of the service supplier and how

much responsibility the plant owner has. We identified five different models (See Figure 1). With the online support model, which is just an advisory support by the supplier with measuring and adjustment of key performance indicators (KPIs), the owner still has 100% responsibility for its decisions. In the other models, the responsibility progressively changes to the supplier, so that in a full O&M contract the service supplier is responsible for the complete staffing, operation and maintenance of the plant including for spares and consumables.

For cement producers, there are different tailor-made options available. From our point of view, many plants have only an average performance, which you can fix by focusing on the mean time between failures (MTBF). In the benchmark figures we provide with our market report you will find a chart of a major cement producer that has 11 kilns. In one year their best kiln MTBF was 27 days, the worst was just four days. This has to be compared to best practices of 35 days. If you can improve the kiln MTBF, than lots of energy can be saved, because with each kiln stop a huge amount of energy is wasted. With a more stable kiln operation and less unplanned stoppages significant savings are possible, over the year.

GC: Can you give us an example?

JH: Let us take a kiln line with 1.5Mt/yr capacity. The kiln line shall have 90% capacity utilisation, with 3500MJ of fuel needed for each tonne of clinker produced, 100kWh needed per tonne of cement produced and a clinker factor of 75%. If the MTBF can be improved from 20 days to 30 days, it should be possible to easily achieve 3% annual saving in electricity demand. If the cost is Euro0.08/kWh, the saving is Euro0.32m/yr. It could also save 5% on its fuel demand. At Euro100/t for coal with 25,000MJ/t this saves Euro0.71m/yr. So the savings in this example will result in Euro1.03/yr, or Euro0.54/t, which is more than significant (See Figure 2).

GC: Why is this potential not used by more plants?

JH: That is the most interesting question. We did

several interviews with cement producers, some who are using such services and others who are not enthusiastic about it. We also spoke to the service providers. The biggest problem is the ‘not invented here’ syndrome. If the cement producer has a long-term experience and adequate people then often there are objections to involving external expertise. Actions are only taken, if the top management is not satisfied with the results and, for example, the achieved MTBF rates. On the other hand we see a development mostly in large groups and different country locations, that they prefer a local O&M strategy and not a central O&M strategy with the involvement of externals.

GC: Can you prove, that externals are able to achieve these results?

JH: I think we can, there are enough examples, but unfortunately not often published. I have examples from some of the top service providers in the sector, but I prefer not to go into details, because we have to be neutral in the field. Anyhow, some service providers state that, in their projects, they are able to reduce production costs by Euro2/t.

GC: What do the cement producers typically pay for these savings?

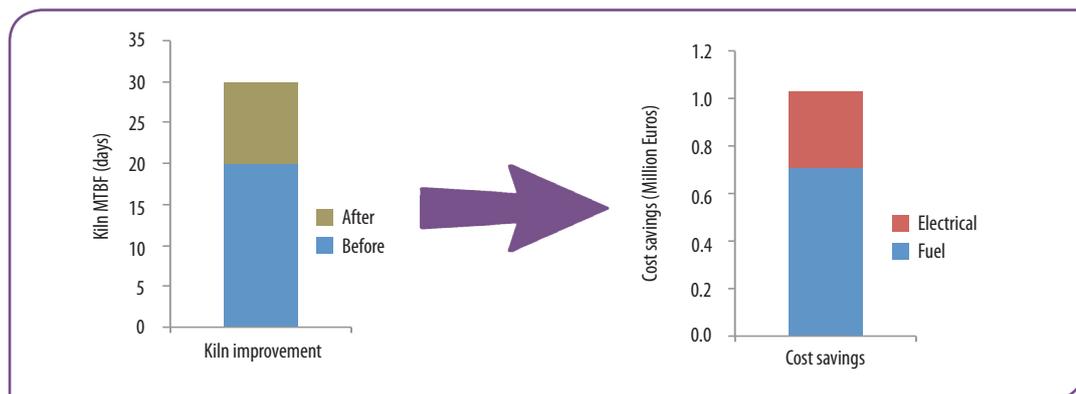
JH: That depends on the contract. Normally for online services a fixed daily sum is paid, independent of the achievements. In full O&M contracts guarantees are given on performance parameters such as fuel and electricity demand and production rate. The payment in such case is more by the negotiated price per ton (PPT) for the O&M services, with bonuses/penalties on production compared to the annual target and losses/savings in energy.

GC: Thank you very much for the interview.

JH: Your are very welcome. Thank you!

Reference

1. http://www.onestone.eu/downloads_docs/Flyer_O_M_2017.pdf 



Left - Figure 2: Increasing the kiln MTBF rate can save over Euro1m/yr.