



Interview by David Perilli, Global Cement Magazine

In discussion - Dr Luigi Di Matteo

Ahead of the 8th Global CemFuels Conference & Exhibition 2014 on alternative fuels for cement and lime in Vienna, Austria, Global Cement interviewed Dr Luigi Di Matteo, the executive director of German bulk material engineering company and alternative fuel processing experts Di Matteo Förderanlagen GmbH & Co. KG. This feature explores Di Matteo's perspective on alternative fuels for the cement industry as a whole and the firm's specific contribution to handling and processing of alternative fuels.



Above: Dr Luigi Di Matteo.

Global Cement (GC): What is the overall trend in alternative fuels for the cement industry?

Luigi Di Matteo (LDM): There are several different trends. But industrial waste no longer has the pure quality it had five or 10 years ago. It has started to be mixed with municipal waste and other waste streams in general. The requirements for the handling and processing of the fuels have increased. This trend will continue in the future.

Once a basis has been established by a plant, the next stage is to increase the substitution rate and increase the availability and process stability. This requires the knowledge and optimisation of the whole fuel processing and handling.

GC: Which areas are becoming more active in the alternative fuels industry?

LDM: The biomass sector has started to increase in Europe. Previously it was more prevalent in other regions, like the Middle East and North America, where biomass was more available instead of waste streams because of local infrastructure and political issues. It will be interesting to observe future developments and trends. This also applies for the opening of the waste landfills.

GC: Are there any alternative fuels that are losing popularity at the moment?

LDM: From a political point of view, bone and animal meals have lost their relevance. Pure industrial waste streams will be displaced by mixtures with municipal waste. The mixture of fuels will become more interesting and more important for future philosophies and trends. This also applies to the opening of the waste landfills. So the 'standard' alternative fuels will be complemented in the future with 'tailor-made' alternative fuels, depending on the geographical region and also on the individual process requirements.

GC: Is there a change in the overall quality of alternative fuels now being accepted for the cement industry?

LDM: Good question! Yes, I think the cement industry and expert companies like us have improved the handling and processing of alternative fuels in recent years. Now, having had experience with many different kinds of alternative fuels, we are also able to utilise the knowledge for future requirements. For example we have invested a lot in the past years in studying the characteristics of alternative fuels and developing new suitable test methods for characterisation. This enables us today to adapt our products within a short time to new kinds of alternative fuels.

For operational use we can observe that overall quality of alternative fuels has been split more than in the past into two main categories. These are the fine-sized and high calorific material used for the main burner and on the other hand the coarse material with a lower calorific material, used for the kiln inlet or calciner. Furthermore we are supporting and consulting our clients also regarding the combustion behaviour of the different alternative fuels, because this is one of the key points.

GC: How does this influence the specifications of the machines that Di Matteo is being asked to supply?

LDM: We are trying to predict the developments and characteristics that are important for the successful employment of our products. 20 years ago we were focused on the fine details, such as problems with handling, mechanics or operation. Processing was not considered, mainly because the handling side was completely unknown for materials now being used. Today we have developed a lot of testing methods to observe and to learn more about the characteristics of these materials, focused of course on the wide range of refuse-derived fuels.

Years ago we had already started to examine the characteristics of these materials because for the conventional bulk materials handling sector there



have been many developments made by others. Basic advances were completely missing from the field of alternative fuels such as compressibility, stress load, elastic behaviour and more. These characteristics influence the successful use of these materials in our machines. Our focus here makes us more efficient and helps us to deliver more reliable and more flexible systems.

GC: When Di Matteo builds a machine for a client do you build the machine for a specific fuel?

LDM: In general we try to use our components or systems for a variation of characteristics. Therefore, we provide flexibility for the use of different fuels and we try to be honest and transparent on this position.

We are always honest with the client. We tell clients that if they invest money on an installation it should not just last for only two or three years to cover the return of the investment and only work for specific materials. We try to predict the development of use for these systems that gives the client flexibility.

Of course our systems are tailor-made for the specified alternative fuels, but we try to use our proven components and systems to increase the flexibility for the client.

GC: Which areas in the world are most active in alternative fuels?

LDM: Outside of Europe (and also inside) there is a big difference between some countries. Usually the activity is determined by political acceptance and economical infrastructure. However, in Europe many countries are already developed to a high level. Here it becomes more and more important to not only use alternative fuels, but to optimise the processing and substitution rates. Requirements such as availability, reliability, lifetimes and resistance for fuels with changing characteristics become more important.

In countries where they are starting with alternative fuels they have to develop their tailor-made systems which consider their individual needs, put them into operation for the long term and develop their own experience. Of course we try to support and consult our clients at this stage, because every client needs a tailor-made solution that meets his needs in the most economical way. We can offer almost all types of efficient and proven solutions for different alternative fuels and therefore we can recommend objectively the best solution for the individual needs of the client.

GC: Are there any countries in which you are keen for Di Matteo to build a presence?

LDM: I think that in North America as also in Asia we will extend our presence over the coming years. In these regions political pressure has initiated activities.

In North America for example, cement producers have started to become active in terms of using alternative fuels. These markets will increase in the next five years because they all have the same problems. They have to take care of the waste managements streams and they want to support the economic and ecological policies.



Left: Assembled Di Matteo ODM WeighTUBE at the factory

GC: What single piece of advice would you give to a company considering the use of alternative fuels?

LDM: Take decisions based on the complete economic picture. In my opinion it's not the cheapest option overall to choose the lowest installation cost.

It is important to evaluate all aspects of a decision. That means installation costs, operation costs and fuel costs. For example, if you compare our solutions with cheaper ones, you can compensate for this price difference in a few months with our higher availability and efficiency. However, the loss you will make on a bad installation or inappropriate concept will remain for many years. The right concept in the right place is always the most efficient solution.

It is also important to consider that there is not one concept that fits everything. They must be tailor-made. It's like with a cement kiln. You cannot buy a standard unit ignoring all individual specialities and local considerations.

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“Tailor-made mixtures will become more important...”

GC: Can you tell me what Di Matteo company is planning for the future?

LDM: To support our clients of course! We have developed and introduced a lot of innovations into our product range, which give our clients better conditions and which open up new possibilities. Products like our WeighTUBE, where we have started a revolution in a conservative market like cement, shows us that there is a lot of potential for improvements and that you can be efficient and successful even as an underdog in some areas. What we have learnt is that with the right idea and the right product you can convince the industry. This will also improve and proceed in the future. We are always optimising our



Above: A Di Matteo ODM WeighTUBE being dispatched.

existing and proven products and introducing new products. We will also present new innovations in the near future.

GC: What's the most popular piece of equipment Di Matteo supplies at present?

LDM: In the last 12 to 20 months the WeighTUBE® has become a key component for almost all of our installations. We have shown that with the right equipment at the right time we can give really good support for the operation for these types of systems.

For the client we can make their life easier regarding maintenance, operation and stability of the processing. Additionally, we have our IZS injector rotary valves, which we developed more than 15 years ago for pneumatic transport which have been introduced to over 800 units worldwide. We have the MultiFUEL docking systems, a mobile system, which we invented many years ago for the start up of these alternative fuels and other systems.

Furthermore we have many other products which complement the portfolio, i.e.: our famous heavy-duty drag chain conveyors, our GFK surface feeders, our special ODM-ScrewDOS® screw discharge and dosing systems or our famous MovingFLOOR MOV and many other products.

GC: Which single aspect of the WeighTUBE would you describe as the most important?

LDM: The most simple ideas are usually the best ideas. In the past we had problems buying in components or systems that were expensive, too big and not reliable or effective. With the WeighTUBE we had the idea to combine the mechanical simplicity of a screw conveyor with a highly accurate dosing system. This combination makes the system unique.

20 years ago we used weighing screws, where we put screw conveyors on load cells. But with our WeighTUBE we only weigh a section of the casing. That means that it is more compact than other systems, more reliable and simpler for mechanical maintenance. We use components that are available

worldwide, from Siemens and other firms. That enables our clients to have a stable and available system anywhere in the world.

GC: Would you describe Europe as a good place for Di Matteo to be headquartered?

LDM: Of course. We have an Italian name and we are a German company! I think this is obviously already a perfect combination. We are a manufacturing company that produces all of the components, all of the machines and equipment that we sell in Germany. We produce them at our plants in Germany and we are a typical 'Made in Germany' manufacturer. We produce everything, we design everything in-house, so we are in a position to be flexible and fast as well as providing highest quality.

GC: Do you see China as an opportunity or as a threat to your business?

LDM: We are not directly active in China yet. The other markets are big enough for us, at least at the moment. I hope it will stay like that. I think that the markets where we are active and specialised within are not big enough to attract Chinese engineering companies. But of course nobody knows...

GC: How many of your machines are being used in China?

LDM: There are products of ours in China but we do not have a direct presence on the market. It is definitely a difficult market that must be served directly on site. It is not feasible or interesting or attractive for us at the moment.

GC: Are there any areas of alternative fuels processing, handling and storage that could be further improved?

LDM: There will definitely be improvements on the preparation side and also on our equipment side. The targets of many plants are 100% substitution rates so they would become independent of primary fuels. I don't know if this is really realistic or useful in the long term for a big plant. But of course, our efforts are in this direction to make everything feasible to achieve this target. To give one example, drying and air separation have become popular. Here we have developed products for the client to make their plants more successful.

GC: Thank you for your time.

LDM: You are welcome!

