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Arab Union for Cement and Building Materials (AUCBM)

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AUCBM's *Quarterly Cement and Building Materials Review (CBMR)*

EDITORIAL SCHEDULE FOR 2025

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June 2025 (# 100)	<ul style="list-style-type: none"> - Pyroprocessing - Process control and optimization - Cement Process Engineering - Cement kilns - (Pre-)processing hazardous waste - Flue gas treatment - Digital transformation - Digitalization in cement industry - Burners and burning processes - Upgrading projects - Modernization and automation - Gas analysis - Testing and analysis - Laboratory equipment 	
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ISSUE	THEMES	EVENTS
December 2025 (# 102)	<ul style="list-style-type: none"> - Coolers - Fans - Air cannons - Occupational health and safety - Comminution - Vertical roller mills - Roller presses - Increasing cement mill output - Crushing - Grinding & grinding aids - Waste heat recovery - Thermal imaging - Thermal recycling - Methods for treating and utilizing bypass dusts - Explosion protection in alternative fuel storage silos - Alternative fuels handling systems - Production and use of Solid Recovered -Fuels 	

Deadlines for receiving articles, press releases, or advert materials for 2025 issues are as follows:

June issue: **29th May 2025**
 September (Bonus) issue: **24th September 2025**
 December issue: **8th December 2025**

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FLSmidth to significantly expand its global service centre network in 2025, further strengthening its service offerings and customer proximity

In 2025, leading mining technology and service supplier FLSmidth will open or expand seven service centres in strategic locations across the globe. These facilities are in direct support of FLSmidth's CORE'26 mining strategy that includes targeting service growth, and adds to the company's already comprehensive global network of service centres that can enhance mining customers' productivity.

New facilities will open in Accra, Ghana; Surabaya, Indonesia; and Dammam, Saudi Arabia, whereas the current operations in Mackay, Australia will relocate to a larger facility. Expansions are planned in Parauapebas, Brazil; Karaganda, Kazakhstan; and Ulaanbaatar, Mongolia. Operations in each of these new locations will begin within the coming months with official opening details to be announced locally at a later date. In addition, an expansion of the service centre in Chloorkop, South Africa is already ongoing and will be completed in 2026.

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FLSmidth offers a comprehensive range of service offerings that allow mining companies to maximise productivity. The company has developed the strategic global presence and advanced service-based solutions required to provide responsive support wherever customers are located. This includes:

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About FLSmidth [↗](#)

FLSmidth is a full flowsheet technology and service supplier to the global mining and cement industries. We enable our customers to improve performance, lower operating costs and reduce environmental impact. MissionZero is our sustainability ambition towards zero emissions in mining and cement by 2030. We work within fully validated Science-Based Targets, have a clear commitment to improving the sustainability performance of the global mining and cement industries and aim to become carbon neutral in our own operations by 2030.

Two MVR vertical roller mills from Gebr. Pfeiffer for Saudi Arabia

Due to the successful installations of MVR vertical roller mills worldwide, information about the many advantages of this innovative grinding technology is spreading rapidly in the cement market. This is quite understandable, because what can be more convincing than positive operating data from the field.

The Eastern Province Cement Company (EPCC) has now also become convinced of this state-of-the-art grinding technology. The company will use two of the advanced MVR vertical roller mills for its Khursaniyah plant in the new 10,000-tpd line to be built in Saudi Arabia. Two MVR 5000 R-4 vertical roller mills will be used for grinding cement raw material. In addition to efficient comminution and the associated high power density, MVR mills are also characterised by very smooth running and very low pressure drop. These features increase the technical availability and reduce both emissions and specific operating costs.

These mills will be the first MVR vertical roller mills to be installed in the Kingdom of Saudi Arabia.



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Each mill will be equipped with a latest-generation SLS 4500 VR classifier and will grind 550 t/h of cement raw material to a fineness of $\leq 10\%$ R on $90\ \mu\text{m}$.

The contract is being handled by the Chinese general contractor CDI from Chengdu.

The MVR mill is expected to be commissioned in the second half of 2025.

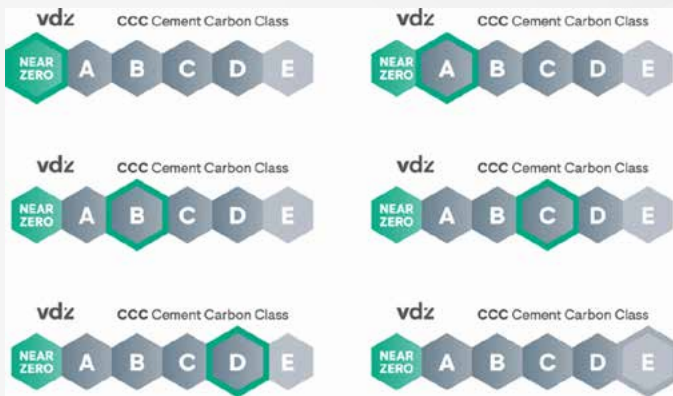


Green lead markets: VDZ introduces CO₂ label for cement

In 2024, the German cement industry together with other stakeholders developed a definition of 'green cements' as part of a stakeholder process organised by the German Federal Ministry for Economic Affairs and Climate Action (BMWK), which sets thresholds for climate-friendly products. "However, the definition alone does not create demand. That's why VDZ has introduced a voluntary CO₂ label that makes the CO₂ footprint of products on the market easily recognisable and comparable in order to promote the use of green cements", explains Christian Knell, President of the German Cement Works Association (VDZ). "The new VDZ label is called Cement Carbon Class (CCC) and can be referred to in tenders so that the use of CO₂ reduced cements becomes standard in the construction sector", Knell emphasises. The public sector is particularly interested in this when it comes to procurement – but private construction projects can also benefit from low-emission cements and concretes, for example in terms of sustainability certification or the granting of subsidies.

VDZ's new CO₂ label paves the way for the classification of cements into a 'Cement Carbon Class' (CCC) on the basis of their greenhouse gas emissions. The corresponding classes are derived from a concept of 'Lead markets for climate-friendly raw materials' defined in the BMWK stakeholder process in 2024 and are based on the system developed by the International Energy Agency (IEA) for categorising cements. In addition to the cement industry, other stakeholders from society, science and business also participated in the stakeholder process.

"By establishing a definition for climate-friendly cements in 2024, German industry and politics have already created a standardised benchmark for assessing CO₂ efficiency and comparing different products. With the new CCC label for cement, we are now putting this definition into practice for users in the construction value chain so that it can be referred to in future invitations to tenders for construction projects", explains Martin Schneider, Chief Executive of VDZ: "This makes the new CCC label an important step towards promoting green lead markets, which are crucial for the transformation towards climate neutrality."



VDZ's new CO₂ label classifies climate-friendly products as follows: Classes A to D identify low-emission cements with a CO₂ footprint of between 100 kg CO₂/t cement and 500 kg CO₂/t cement in four levels. 'Near zero' cements are those with a CO₂ footprint of less than 100 kg CO₂/t of cement (see also figure below).

About VDZ:

VDZ was founded in 1877. As the joint organisation of the German cement manufacturers, VDZ has been actively promoting environmentally friendly cement production and high-quality concrete construction for more than 140 years. As an international research and competence centre in the field of cement, concrete and environmental protection, VDZ has gained worldwide recognition and respect for its practical research work and its comprehensive range of services along the entire value chain.

More information: vdz.info/enccc

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Green Cement and the Role of Rhyolite as a Pozzolanic Material

Shehab. M. Al-Aryan, ASEC Technical Center

Abstract

The cement industry is a major contributor to global CO₂ emissions, with traditional cement production being a significant source. This study explores the potential of rhyolite as a pozzolanic material to produce sustainable green cement. Unlike traditional pozzolans such as fly ash or silica fume, rhyolite, a silica-rich volcanic rock, offers unique chemical and mineralogical properties that enhance cement hydration. The findings indicate that rhyolite can be effectively utilized as a supplementary cementitious material (SCM) to improve cement durability and reduce clinker content, thus lowering environmental impact.

Keywords

Green Cement, Rhyolite, Pozzolanic Materials, Sustainable Construction, Clinker Replacement, Compressive Strength

Introduction

Sustainable construction materials are essential for reducing the environmental footprint of the cement industry. Cement production contributes significantly to CO₂ emissions, primarily due to the calcination of limestone and high energy consumption. One approach to mitigating these emissions is the use of pozzolanic materials as partial clinker replacements. While pozzolanic materials like fly ash and slag have been widely used, the potential of rhyolite remains underexplored.

Rhyolite is a fine-grained, silica-rich volcanic rock composed primarily of quartz, feldspar, and minor mafic minerals. Due to its high silica content and amorphous nature, finely ground rhyolite exhibits pozzolanic activity, allowing it to react with calcium hydroxide in cement to form additional binding compounds. Different types of rhyolite exist,

including peralkaline rhyolite, which contains higher alkali oxides, and metaluminous rhyolite, which has balanced alumina and silica proportions. This study investigates the feasibility of using finely ground rhyolite as a pozzolanic material in cement production and its impact on physical and mechanical properties.

Availability of Rhyolite in the Arab Region

The Arab region hosts several significant rhyolite deposits, primarily associated with volcanic activity in countries such as Saudi Arabia, Yemen, Jordan, and Egypt.

- **Saudi Arabia:** Large rhyolitic formations are present in the western region, particularly in the Harrat volcanic fields. These deposits are known for their high silica content and potential pozzolanic activity.
- **Yemen:** The country has extensive volcanic plateaus containing rhyolitic rocks, especially in the western and central highlands.
- **Jordan:** Rhyolitic tuffs and ignimbrites can be found in volcanic fields in the eastern desert region.
- **Egypt:** The Eastern Desert and Sinai Peninsula contain rhyolitic formations that may be suitable for use as supplementary cementitious materials.

These rhyolite sources offer a sustainable alternative to conventional pozzolanic materials, reducing the reliance on imported SCMs and lowering the carbon footprint of cement production in the region.

Experimental

To evaluate the effect of rhyolite as a pozzolanic material, an experimental study was conducted by partially replacing clinker with different percentages of rhyolite (5%, 10%, 15%, 20%, 25%, 30%, and 35%). Compressive strength was evaluated at several times; in addition to determine setting time and expansion.

Results & Discussion

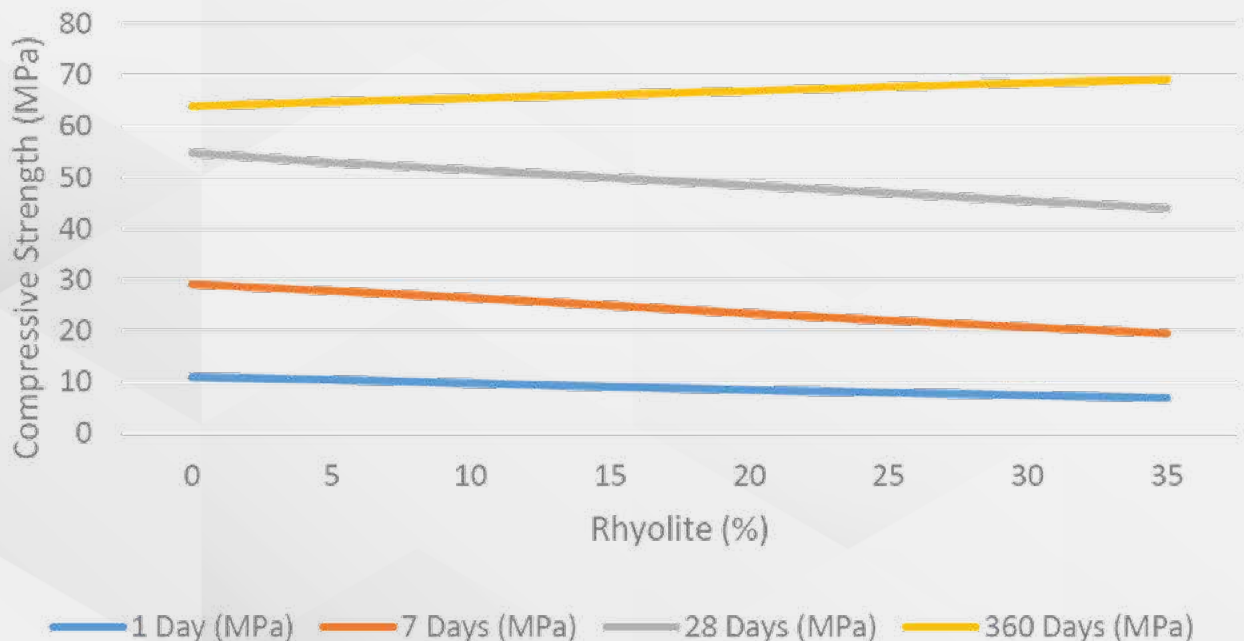
In this part of case study, the results of physical properties will be presented as follows:

Rhyolite (%)	1 Day MPa	2 Days MPa	3 Days MPa	7 Days MPa	28 Days MPa	60 Days MPa	90 Days MPa	120 Days MPa	180 Days MPa	360 Days MPa	IST (hrs)	FST (hrs)	Exp. (mm)	%Cons.
Blank	11.0	16.6	20.5	29.1	54.9	57.3	60.5	62.6	63.4	64.0	2.1	3.6	1	27.0
5	10.5	15.8	19.8	27.9	53.0	58.5	61.0	63.2	64.0	64.8	2.3	3.8	1	27.8
10	9.8	15.0	18.9	26.5	51.5	60.0	61.5	64.0	64.7	65.5	2.5	4.0	1	28.5
15	9.1	14.3	18.1	25.0	50.0	60.5	62.0	64.8	65.4	66.2	2.7	4.2	1	30.0
20	8.5	13.6	17.2	23.5	48.5	60.8	62.5	65.5	66.2	67.0	3.0	4.5	1	31.6
25	8.0	12.9	16.5	22.1	47.0	61.5	63.0	66.2	66.9	67.8	3.3	4.8	1	32.0
30	7.5	12.3	15.8	20.8	45.5	62.0	63.5	66.8	67.6	68.5	3.5	5.0	1	36.1
35	7.5	11.8	15.1	19.5	44.0	62.5	64.0	67.5	68.3	69.2	3.8	5.3	1	36.9

- **Compressive Strength:**

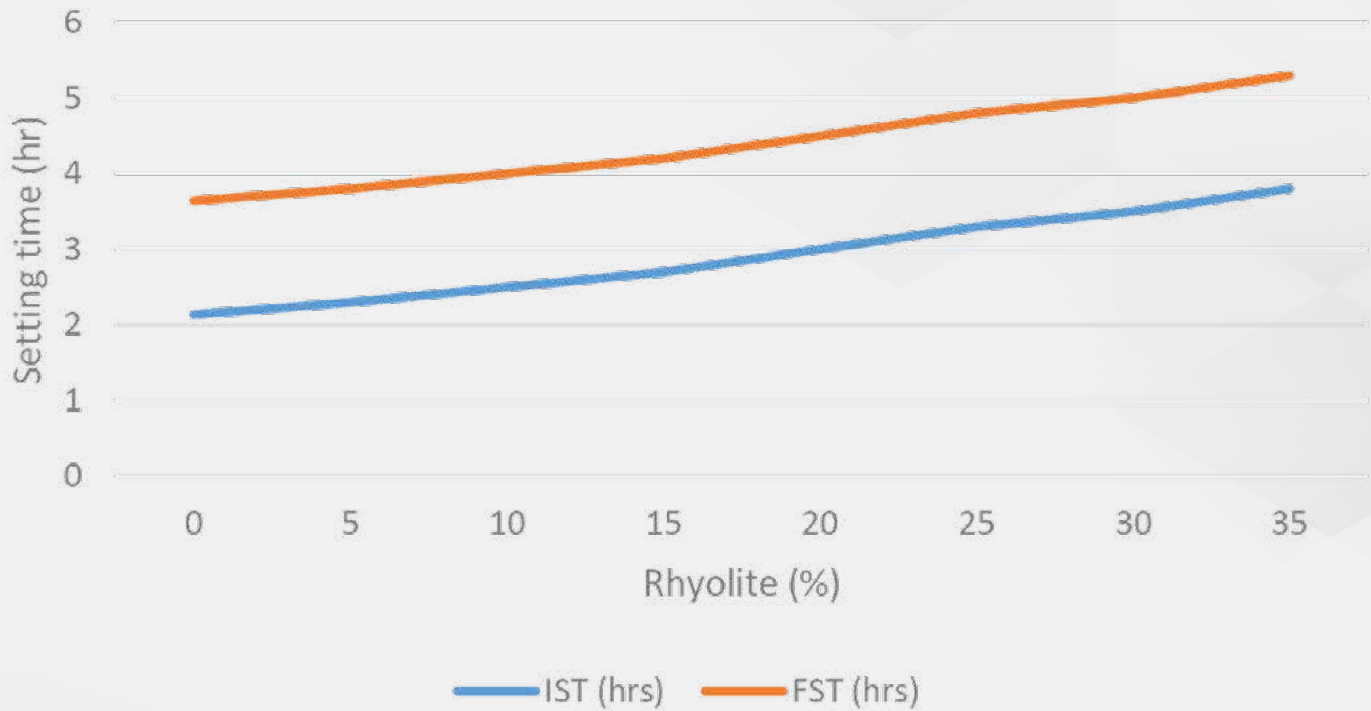
- **1 Day:** Strength decreases with increasing rhyolite content due to the slower pozzolanic reaction.
- **2-7 Days:** Moderate decrease as rhyolite contributes to secondary hydration.
- **Over 28 Days:** Strength improves significantly due to the pozzolanic reaction forming additional C-S-H gel, enhancing long-term durability.
- **360 Days:** Cement with rhyolite is outperform standard cement in long-term strength due to the continuous pozzolanic reaction

Effect of Rhyolite on Compressive Strength



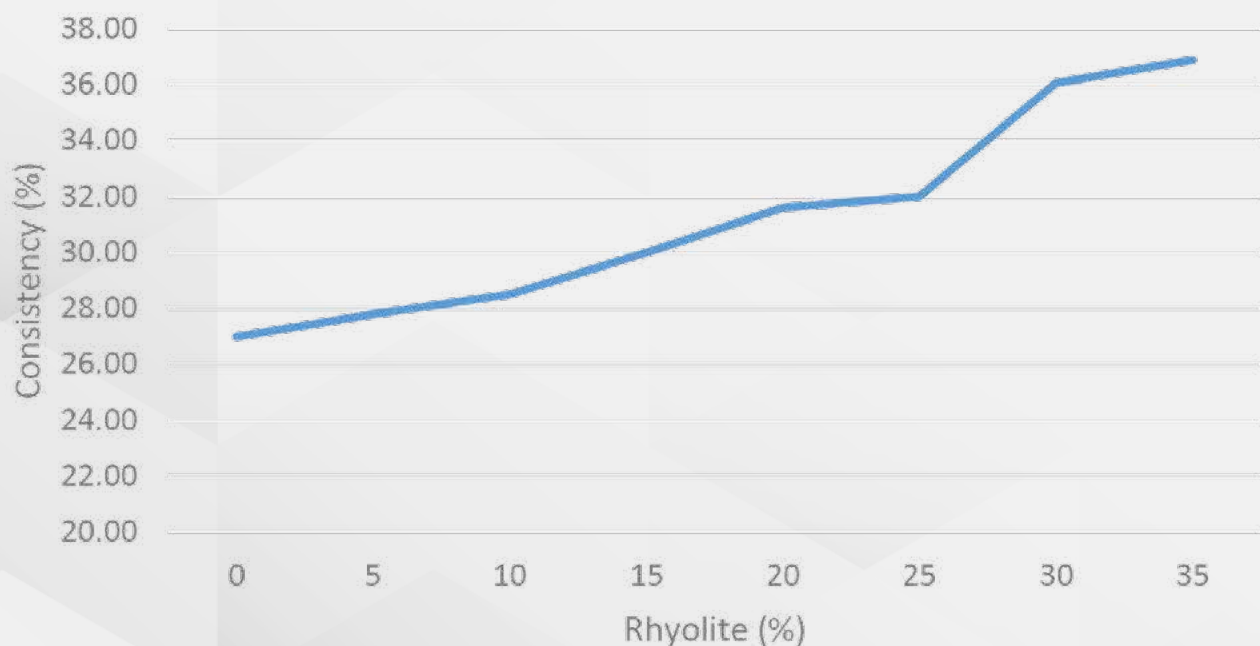
- **Initial Setting Time (IST):** Increase slightly with higher rhyolite content, as pozzolanic reactions take longer to initiate.
- **Final Setting Time (FST):** Slightly prolonged due to the slower reaction kinetics of rhyolite.

Effect of Rhyolite on Setting time



- **Consistency:** Increases slightly with increasing rhyolite content due to its fine particle size and high silica reactivity.

Effect of Rhyolite on Consistency



- **Expansion:** No significant change is expected as rhyolite is chemically stable.

Potential Benefits of Rhyolite in Cement Production

- 1. Reduction in CO₂ Emissions:** Partial replacement of clinker with rhyolite reduces the need for limestone calcination, thereby cutting carbon emissions.
- 2. Improved Durability:** The high silica content enhances long-term strength and durability by promoting secondary hydration reactions.
- 3. Lower Heat of Hydration:** Rhyolite reduces the exothermic reaction during cement hydration, minimizing thermal cracking in mass concrete applications.
- 4. Increased Resistance to Sulfate and Alkali-Silica Reactions:** The mineralogical composition of rhyolite contributes to enhanced chemical resistance in aggressive environments.

Conclusion

Rhyolite demonstrates strong potential as a pozzolanic material for green cement production. Its high silica content and amorphous nature enable effective clinker replacement, reducing CO₂ emissions while maintaining cement performance. The variation in rhyolite types influences its reactivity, with metaluminous rhyolite showing superior pozzolanic potential. Additionally, the availability of rhyolite deposits in the Arab region provides a strategic advantage for local cement manufacturers, ensuring sustainable and cost-effective material sourcing. Future studies should focus on optimizing grinding techniques and chemical activation methods to enhance the performance of rhyolite-based cement formulations.

References

- Mehta, P. K., & Monteiro, P. J. M. (2014). *Concrete: Microstructure, Properties, and Materials*. McGraw-Hill Education.
- Taylor, H. F. W. (1997). *Cement Chemistry*. Thomas Telford Publishing.
- Snellings, R., Scrivener, K. L., & Lothenbach, B. (2012). Supplementary Cementitious Materials. *Cement and Concrete Research*, 41(8), 642-647.
- Juenger, M. C. G., Winnefeld, F., Provis, J. L., & Ideker, J. H. (2011). Advances in Alternative Cementitious Binders. *Cement and Concrete Research*, 41(12), 1232-1243.
- Aïtcin, P. C. (2000). Cements of Yesterday and Today: Concrete of Tomorrow. *Cement and Concrete Research*, 30(9), 1349-1359.
- Bachmann, O., Dungan, M.A., & Lipman, P. W. (2002). The Petrography and Petrogenesis of Rhyolite Magmas. *Journal of Petrology*, 43(8), 1469-1503.
- White, A. J. R., & McPhie, J. (2003). Volcanology and Geochemistry of Rhyolitic Rocks. *Earth-Science Reviews*, 61(1), 1-25.



Improving Quality & Process Control with PGNAA

Vivek Naidoo, Scantech International Pty Ltd, Australia

It is impossible to manage quality without measuring it. The measurement of material in a cement plant includes sampling and laboratory analysis which is performed offline, and online analysis which occurs in process. Plant operators need to make effective decisions in real time to ensure production targets are met without compromising product quality. Measurement using online analysis, which is a continuous, fully representative measurement of material provides plant operators with an opportunity to control quality in the most efficient way. Minimizing variability is a key factor in controlling quality and processes on site.

Reducing variability to increase quality

The variability of feed material quality is reduced through pre-blending of limestone stockpiles and additive control. Quality variability in stockpiled limestone requires increased demand for expensive additives to correct to the desired raw mill feed chemistry. Quality parameters are used in order to ensure produced cement quality meets expected industry standards.

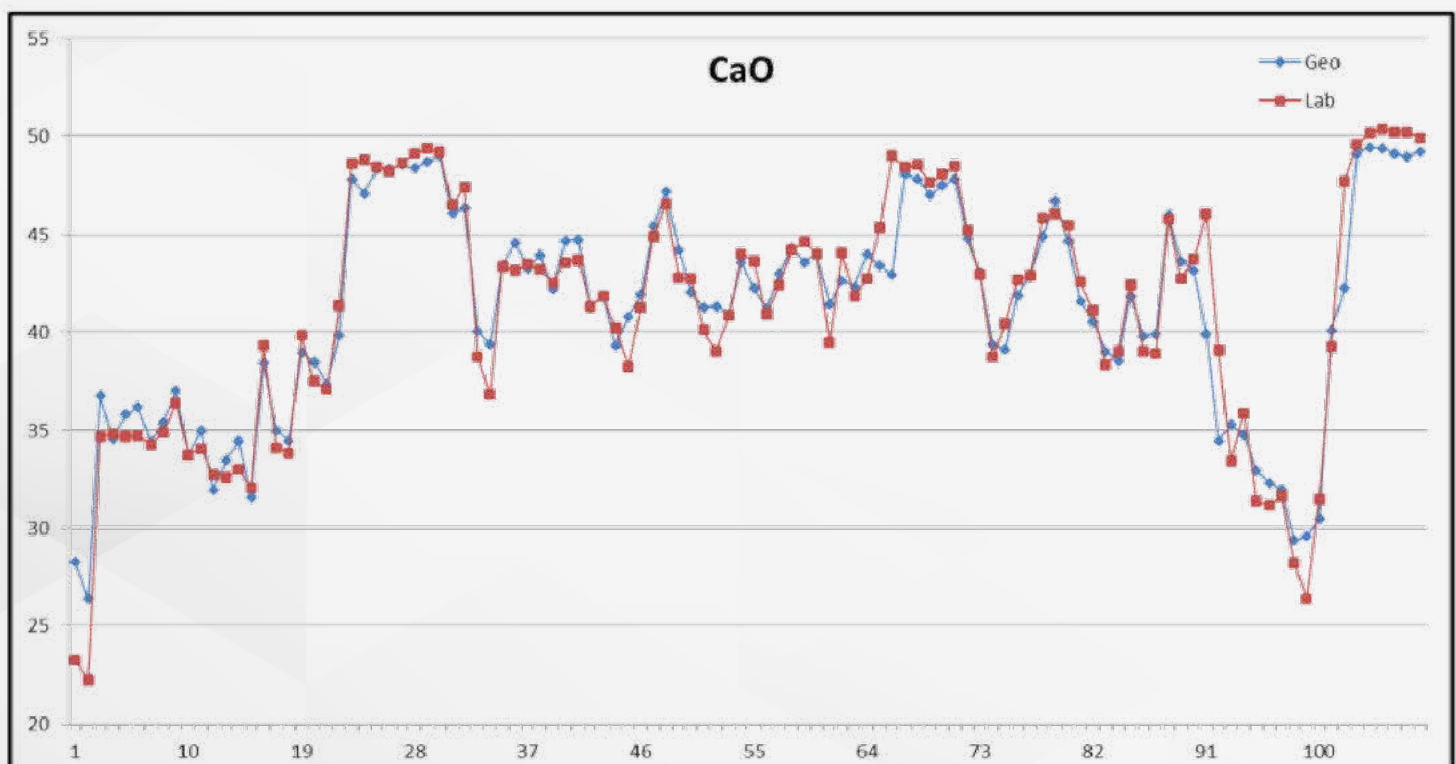


Figure 1: Variability of limestone pre-stockpile



The starting point for understanding and managing variability of material is measuring it. Sampling conveyed material representatively is difficult as quality varies, and coarse material requires many large samples to be taken frequently to meet sampling standards. Large samples require crushing, sub-sampling and laboratory assay to produce compositional data intended to represent a section of conveyed flow. Many types of sampling error can occur which reduce confidence in the final assay data. The data becomes available hours after samples are taken and the data does not allow real time process control. Sampling can therefore not be relied upon as a method to confidently determine and control quality variability. Online analysis with Prompt Gamma Neutron Activation Analysis (PGNAA) offers a solution to identify the compositional variability in the plant material as it is continuous, real time and fully representative.

Fully representative online analysis

PGNAA is a measurement technique used in online analysis to measure material moving on conveyor belts. PGNAA allows for entire material flows to be measured continuously providing elemental composition of material in real time. Measurement with PGNAA provides accuracy and performance which is independent of particle size or heterogeneity of the material. It is also unaffected by belt speed, steel cords or chlorine contained in rubber conveyors, mineralogy, segregation or layering in the flow, moisture or dust. The ability to penetrate and measure the whole cross section of material continuously on a conveyor belt makes PGNAA a fully representative measurement technique.

PGNAA makes use of a radiation source which emits neutrons continuously. Elemental nuclei in the

material moving on a conveyor belt capture these neutrons and promptly emit gamma ray energies unique to each element. The gamma ray energies are sensed using an array of high specification detectors and digital multi-channel analysers to provide a cumulative spectral response for each measurement period. The spectral responses are broken down into the proportion of each element present and average analyses for the measured period are transmitted to a plant control system so suitable responses can occur to manage the composition.

Process control with online analysis

Processing the limestone from the quarry to reduce variability post-crushing includes the pre-blending of this limestone before the stockpile. The blending involves the use of online analysis to firstly identify elemental composition of material and then to stockpile the material according to elemental composition or quality. Online analysis allows blending to occur in real time. This ensures that a consistent feed of material is delivered from the stockpile to the raw mill.

Further processing includes the proportioning of additives to adjust concentration of elements such as Fe, Al, and Si through clays, shales or iron ores. These are added via feeders to the raw mix flow based on the measured composition of material before it enters the raw mill. This ensures the raw mix composition is consistent with quality targets.

Online analysis at the front end of a cement plant, specifically pre-stockpile and on the feed to the raw mill offers plant operators with measurement data which can serve as a lead indicator to downstream plant performance and whether quality targets relating to clinker and final product will be achieved.

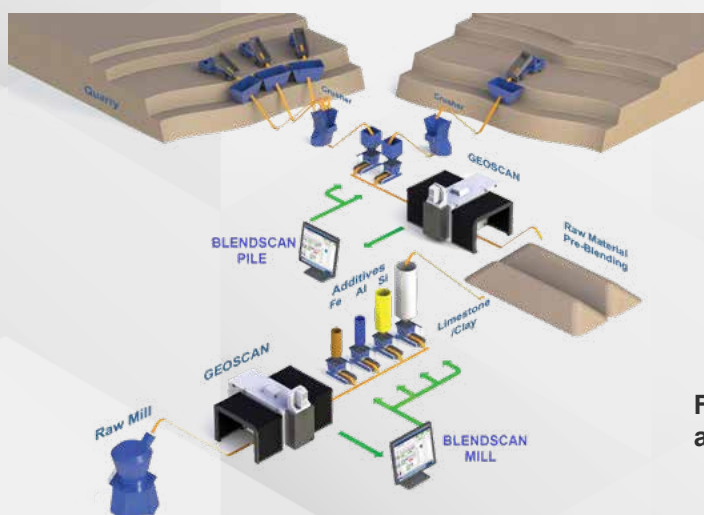


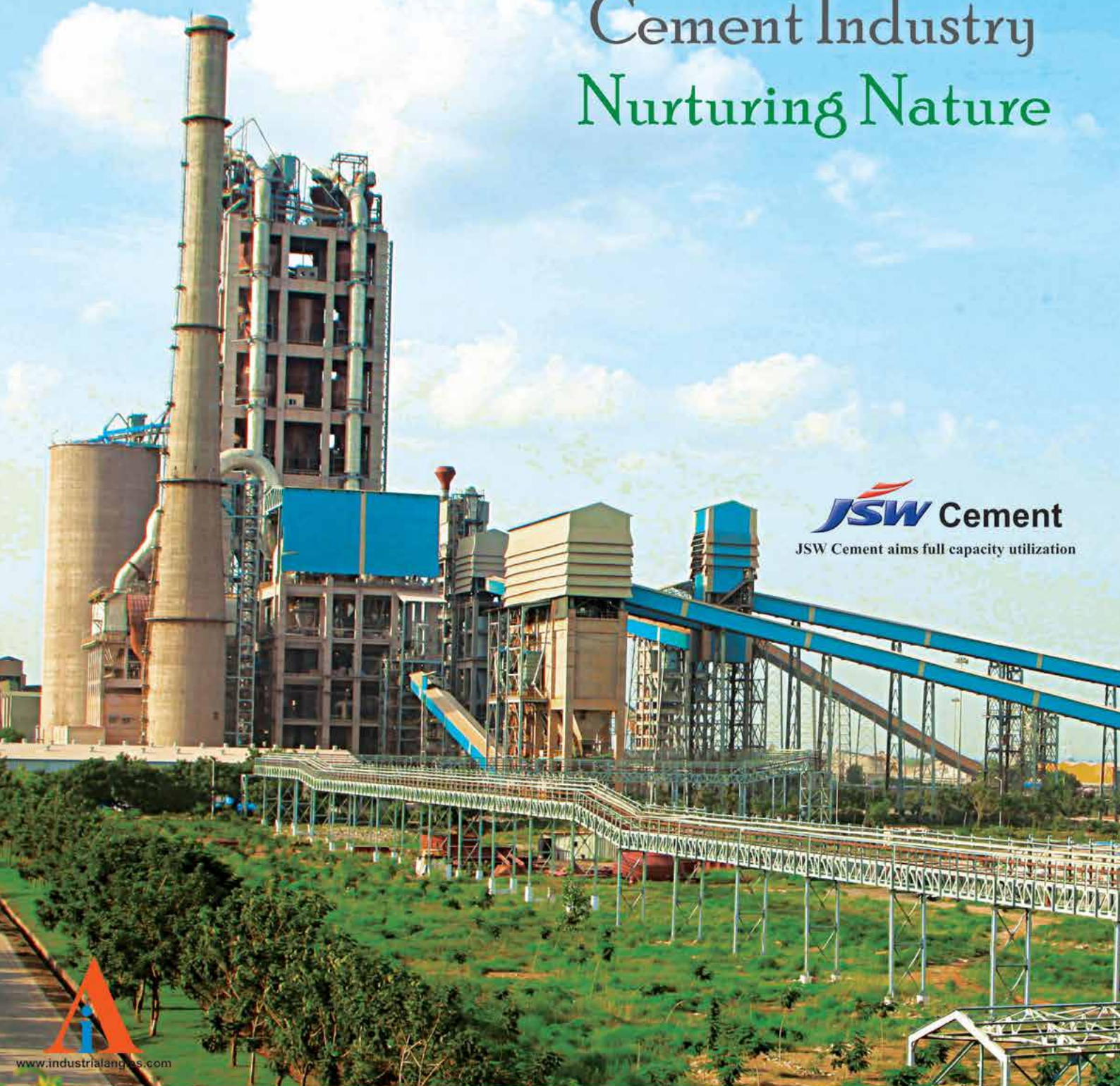
Figure 2: Online analysis with GEOSCAN-C at pre-stockpile and raw mill feed

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Scantech's GEOSCAN-C

Scantech's GEOSCAN-C is a PGNAA online analyser which is used in cement plants to report on elements of interest with respective compositions, these elements include Si, Al, Fe, Ca, Mg, Na, Ti, K, Cl, S, Mn and more. Once the elemental composition of material is known, important quality control factors such as LSF, SR and AR can also be measured in real time.

GEOSCAN-C is simple to install and has been utilized in cement plants all over the world for over 30 years. A rear shield is removed to enable the analyser to be placed around the conveyor belt without any need for cutting or modification to the belt itself. The GEOSCAN-C has width of 1m in the direction of the conveyor belt and this design ensures that minimal modification to the conveyor support and idler system is needed as the analyser can fit between idlers set at standard spacings.

The patented GEOSCAN-C design further ensures that there is no contact made with the conveyor belt and analyser tunnel during normal operation. There is no need for spare parts such as sliders or wear plates a result of the design and this minimises the need for maintenance and operational expenses.

The use of high-performance bismuth germanium (BGO) detectors ensures significant gains over other detectors such as sodium iodide in analysis accuracy. They have proven to be easier to calibrate, more robust and less sensitive to shock and vibration, and to provide very predictable performance with high resolution outcomes. The inclusion of BGO detectors has also reduced the time needed for spectral standardisation during calibration. This allows the plant to operate continuously with minimal downtime needed for calibration.

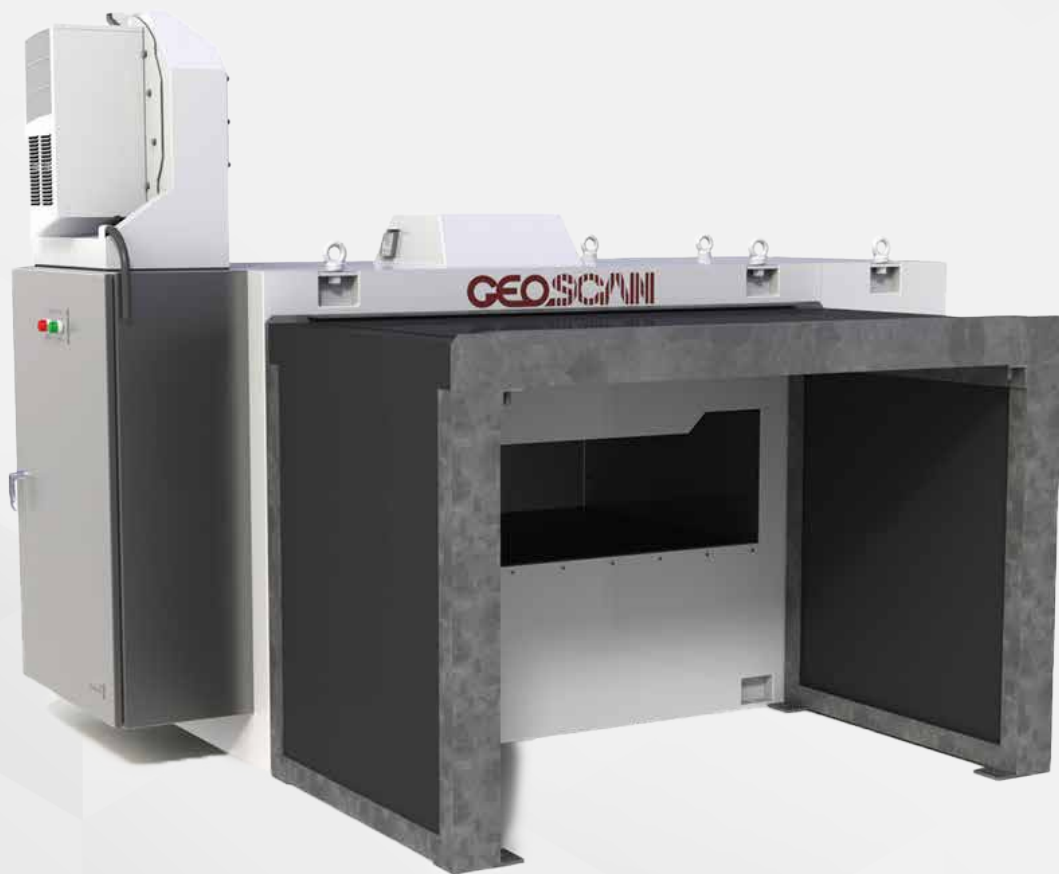


Figure 3: Scantech's GEOSCAN-C analyser installed on a conveyor system



The GEOSCAN-C has flexibility in connecting to existing plant interfaces. The analyser can seamlessly plug into plant control systems to provide graphical output of data and dashboards. Plants operating with minimal software can make use of the SuperSCAN option which provides a custom console with dashboard graphical display to output data and results to any device. Besides elemental composition data, information such as quality control factors (LSF, AR, SR), trending graphs, 'as-received', 'loss-free', 'dry basis', material flow rate and statistical data for any period are all standard features of this system.

Controlling weigh feeders through BLENDSCAN software is another option which can be added to the GEOSCAN-C to enhance process control on site. This software uses data from the analyser to automate process control and proportioning of additives such as Fe, Si, Al materials to the raw mix.

AI to enhance quality control

Scantech's team of scientists and calibrators, based in Adelaide Australia are continually developing and improving current technologies within the company. With rapid development of AI and machine learning entering and disrupting most industries, one of Scantech's areas of focus is how this can be effectively utilized within online analysis to improve measurement, quality and process control at cement plants.

Developments in machine learning and pattern recognition of elements, particle size and moisture, in characterizing material is being tested to further improve measurement accuracy and performance, measurement times and calibration efficiency.

In the future, plant operators will also make use of other AI and machine learning models to improve operational efficiency. These systems do require a basis or accurate source of data as input to develop and improve. The GEOSCAN-C provides an accurate source of data which is fully representative, continuous and accurate, which can therefore serve as a reliable input for AI and machine learning models. Scantech as a technology company has been a significant contributor to the enhancement of PGNAA technology since the 1990s and this will continue as a natural progression with the further development of AI and machine learning capabilities.

Expectations

The use of the online analysis with PGNAA technology and specifically the GEOSCAN-C analyser has significantly improved management of quarry stockpiles, plant process control and product quality and consistency. Stockpile quality targets can be maintained and if material concentration levels vary excessively corrective actions can be made to prevent downstream process problems.

Downstream from the stockpile, raw mill feed is optimised to reduce variance, and this enables optimal performance of the kiln through consistent composition of the feed material. A highly consistent kiln operation leads to increased kiln refractory life and ultimately better-quality clinker and cement product. GEOSCAN-C offers an effective solution to improve quality and process control at the front end of a cement plant. Scantech assists clients to minimize implementation time and ensure benefits of high quality measurement data are achieved promptly.



Sustainability through Optimization

Mohamed Fawzy Gad ELRab, Arab Swiss Engineering Company "ASEC", Egypt

Introduction

Greenhouse gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases (F-gases). Among these, CO₂ is the primary contributor to global warming caused by human activities, accounting for more than half of the warming effects. Methane (CH₄) has a comparable short-term impact, while nitrous oxide (N₂O) and fluorinated gases play a smaller role. These gases drive climate change through the greenhouse effect, where they trap heat within a planet's atmosphere. On Earth, the Sun emits shortwave radiation that penetrates greenhouse gases to warm the surface. In turn, the Earth's surface emits longwave radiation, which is largely absorbed by these gases. This absorption limits the escape of heat to space, slowing the planet's cooling process and increasing surface temperatures.

Background

Carbon dioxide (CO₂) is the primary greenhouse gas produced by human activities, contributing to more than half of global warming. This has shifted significant attention toward decarbonization, which focuses on reducing CO₂ emissions and ultimately aims to eliminate them.

To achieve global decarbonization targets, there are two main approaches: replacing carbon-intensive energy sources with carbon-free alternatives, or reducing and optimizing the current specific energy consumption (both thermal and electrical).

This paper examines two cases from a cement plant where we worked to optimize processes with the objective of reducing CO₂ emissions by lowering specific energy consumption. The first case involves a VRM (Vertical Roller Mill) that experienced increase in power consumption due to system defects and operational issues. The second case focuses on optimizing the specific heat consumption of one kiln.

Sustainability Vision

ASEC approach to problem solving stems from our responsibility toward the environment and our clients. By focusing on optimization, we aim to achieve cost optimization while contributing to the production of green cement.

Optimization shifts the priority from maintain to produce to become maintain to reduce CO₂ emission. It involves working within existing system limits to achieve emission reductions. By optimizing, companies can save on operational costs and minimize the need for large investments in CO₂ reduction technologies.

Investigation strategy

To achieve optimization, the first step is to identify bottlenecks and key points within each system. Conducting intensive and comprehensive audits is essential for evaluating system performance. These audits assess the operational status (on/off) of equipment and include both process and mechanical evaluations. Key elements of these audits typically involve:

1. False air mapping.
2. Airflow measurements.
3. Gas Speed assessments.
4. Heat & Mass Balance
5. Cooler efficiency assessment.
6. Radiation assessment.
7. Visual inspection.
8. Mechanical assessment & review design.

Case (#1) VRM

the vertical mill in question is a three-roller system designed to produce raw meal at a capacity of 355 t/h, with guaranteed sieve residues of 14% on a 90-micron mesh. Over time, its performance deteriorated, with productivity declining to a low of 251 t/h. frequent stoppages due to excessive vibrations and airlift blockages further compounded the issues. Additionally, the mill's specific power consumption increased significantly from the design value of 15.4 kWh/ton to 20.5 kWh/ton, while the product sieve residue rose to 17.68%.

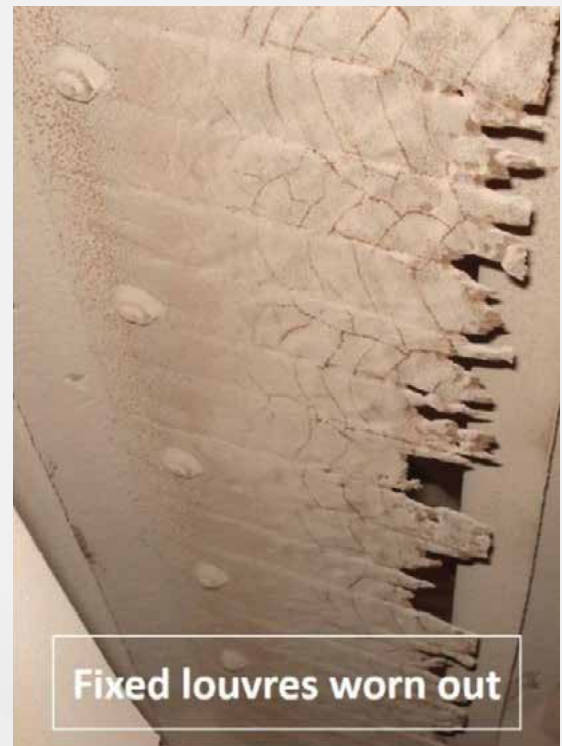
It is important to note that the increase in power consumption directly translates to higher electricity usage, resulting in increased CO₂ emissions. At ASEC, we believe that optimization is the key starting point for effective decarbonization.

An investigation was conducted by ASEC's Technical Center, involving both the process and mechanical teams. A comprehensive audit was carried out, leading to the following findings:

1. Very fine material as input to mill, which has 78% passing mesh 1 mm versus reference (max 10% pass mesh 1 mm).
2. High false air in mill, which reached 70% Vs Best Practice 17% (Including mill, Cyclones and Fan).
3. Very low air nozzle area of mill which reached 1.86 m² Vs design 4 m² which reflected in very high gas speed which reached 80 m/sec – reference is 50 m/sec.
4. Worn out in top seal of separator (Pic#1) and guide vanes (pic#2).



Defected Top seal (pic#1)



worn out guide vanes (pic#2)

Recommended actions applied as the following:

1. Controlled feed size at mill input.
2. Closed all false air points.
3. Enlarged air nozzle area.
4. Adjusted all control valves of the hydraulic circuit.
5. Complete repair of top seal and vanes of separator.
6. Enlarged motors pulleys of 3 air lift blowers.

Results

1. Increase flow rate of air lift blowers by 24.5%.
2. Vibration issue solved.
3. Mill productivity recovered.

Item	Case	Final Result	Variation (%)
Feed (t/hr)	251	359	43%
Sieve % (Mesh 90)	17.68	14.68	-17%
SPC (kwh/t)	20.5	15.13	-26%

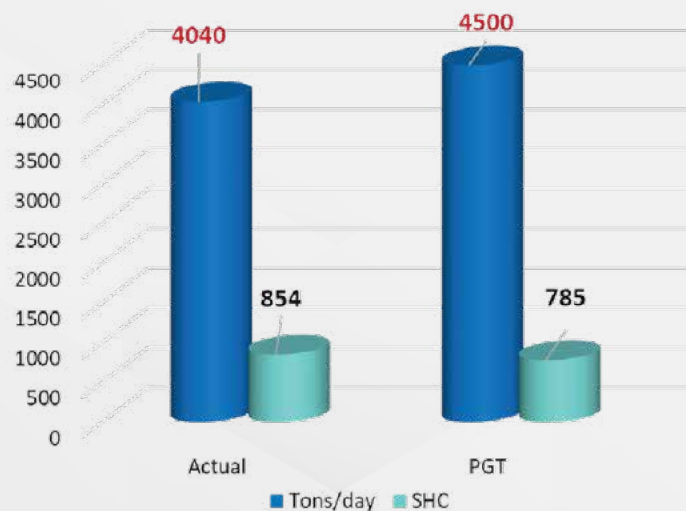
The estimated CO₂ reduction achieved is as follows:

For Scope 2 emissions related to specific power consumption, CO₂ emissions were reduced from 37 kg CO₂/ton of cement (before optimization) to 29 kg CO₂/ton of cement (after optimization). This represents a total reduction of approximately 9,030 tons of CO₂, equating to a decrease of 21.6%.

Case (#2) KILN

The kiln in this case is 77 meters in length and 4.75 meters in diameter, equipped with a 5-stage preheater, an inline calciner, and a modulated cooler. Initially, kiln operation was stable, but performance began to deteriorate, leading to increase specific power and specific heat consumption. We recognized that optimizing these parameters would positively affect CO₂ reduction. Below is a comparison of the kiln's design versus its actual performance figures during period before optimization.

Item	Design	Case
Production output (ton/day)	4500	4040
Thermal Energy Consumption (kcal/kg CK)	785	854
Electrical Energy Consumption (kWh/ton)	32	38.5
Free Lime (%)	1.2	2
Clinker Temperature [above ambient] (Degree)	75	130



ASEC Technical Center conducted a comprehensive audit, including a detailed heat balance analysis within the system boundary, to pinpoint the sources of energy losses. The audit revealed that the primary losses were from the cooler, which accounted for 196 kcal/kg of clinker. Based on this finding, the ASEC team focused on optimizing the cooler, as outlined in the following cooler balance:

Input	Flow		Temp. °C	Cp *) Kc/kg/°C	Heat kcal/kg ck		
	Kg/kg	Nm³/kg			Ref = 0	Ref amb.	
Clinker	1.0		1450	0.264	383.0	5.35	377.7
Dust	0.1		1450	0.264	38.3	0.53	37.8
Cool. air (ambient.)	2.51	1.953	30	0.242	18.2	18.19	0.0
Fan energy in kWh/t	5.74			0.860	4.9		4.9
Water inj.	0.084		30	1.000	2.5	2.519	0.0
Total Heat input					447.0		420.4

Output	Flow		Temp. °C	Cp Kc/kg/°C	Heat kcal/kg ck		
	Kg/kg	Nm³/kg cl.			Ref = 0	Ref amb.	
Sec. Air	0.392	0.306	870	0.261	89.1	2.85	86.3
Sec. air, dust	0.040	(=39.3 g/m³)	870	0.234	8.1	0.21	7.9
Tert. Air	0.610	0.476	885	0.262	141.3	4.43	136.9
Tert. air, dust	0.060	(=37.4 g/m³)	885	0.234	12.4	0.32	12.1
Excess air **)	1.587	1.237	290	0.258	118.9	12.03	106.8
Exc. air, dust (2)			290	0.206	0.0	0.00	0.0
Clinker	1		130	0.191	24.8	5.35	19.4
Radiation					5.0		5.0
Heating + evaporation of water **)	0.08			564	47.4	548	46.0
Clinker + dust 2	1.00		130	0.191	(24.8)	5.35	(19.4)
Total heat, output					447.0		420.4

The process measurements revealed the following key findings:

- Cooler losses were around 196 kcal/kg of clinker, compared to the reference value of 100 kcal/kg.
- Secondary and tertiary air temperatures were low, measured at 870°C and 885°C, while the benchmark temperature is around 1000°C or more.
- Clinker temperature was high at 130°C, compared to the reference value of 100°C.
- Cooler efficiency was very low, reached only 54%, while the reference efficiency is between 70% and 75%.
- The absolute airflow of the cooler fans was found to be lower than the design and PGT figures.
- Visual inspections revealed:
 - Blockages in the pathways of the cooler fan flow and buildup on the cooler modules, restricting fan airflow. (pic #3)
 - Malfunctions in the airflow controllers inside the cooler. (Pic #4)



Pic #3



Pic #4

The following actions were taken to address the issues:

1. All pathways for the fans and cooler modules were thoroughly cleaned.
2. All cooler airflow controllers were adjusted to ensure proper functioning.

Results

1. The airflow of the cooler fans increased by 5% to 13%.
2. Both tertiary and secondary air temperatures increased by 25%.
3. Specific heat consumption decreased from 854 kcal/kg of clinker to 785 kcal/kg of clinker.

The impact of this optimization on CO₂ reduction, which is the core objective of this investigation, is as follows:

Conclusion

After thoroughly analyzing the previous two cases involving the VRM and kiln, it is clear that optimization can lead to significant CO₂ reduction. To conclude the performance optimization in relation to CO₂ reduction, we can observe the following outcomes:

By the end of the case, it becomes evident that investing in carbon reduction is essential. However, achieving this while maintaining a budget surplus through optimization is even more advantageous. By working within defined constraints and focusing on operational efficiency, significant cost savings can be achieved. These savings can then be reinvested in additional decarbonization projects, amplifying the impact.

Specific CO₂ (t CO₂/ton Cement)

Before	After
0.26	0.24

Saving CO₂ (Tons)

CO ₂ (tons)	
24,133	-8%

VRM	
Before	After
251 t/hr.	359 t/hr.
21 kwh/ton	15 kwh/ton

Kiln	
Before	After
4,040 t/day	4,468 t/day
854 Kcal/kg CK	785 Kcal/kg CK

Total Specific CO₂
(t CO₂/ton Cement)

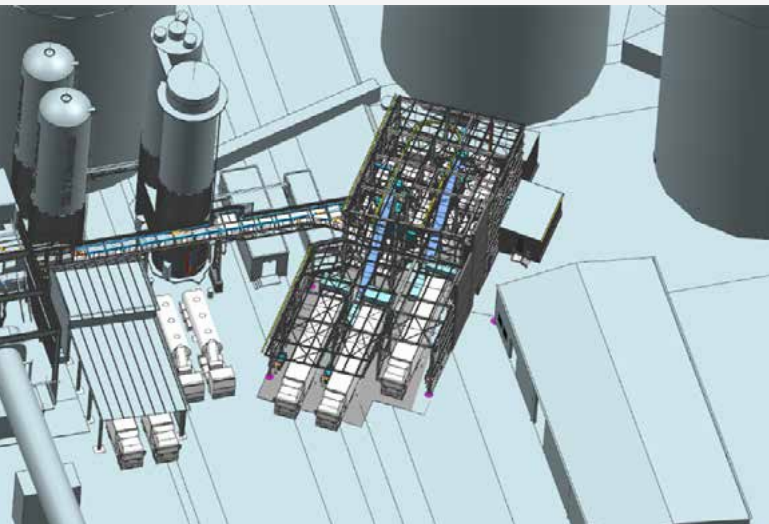
Total CO₂ Saved
33,163 tons (-10% Reduction)

Cutting-edge secondary fuel plants

Olaf Michelswirth // Intercem Engineering GmbH, Germany

Environment and sustainability – the reduction of carbon emissions and the optimal and economical use of resources as the primary objective for the implementation of cutting-edge secondary fuel plants, shown by two case studies.

Case study 1 – Truck receiving station and dosing for alternative



Masterlayout



Project commissioned

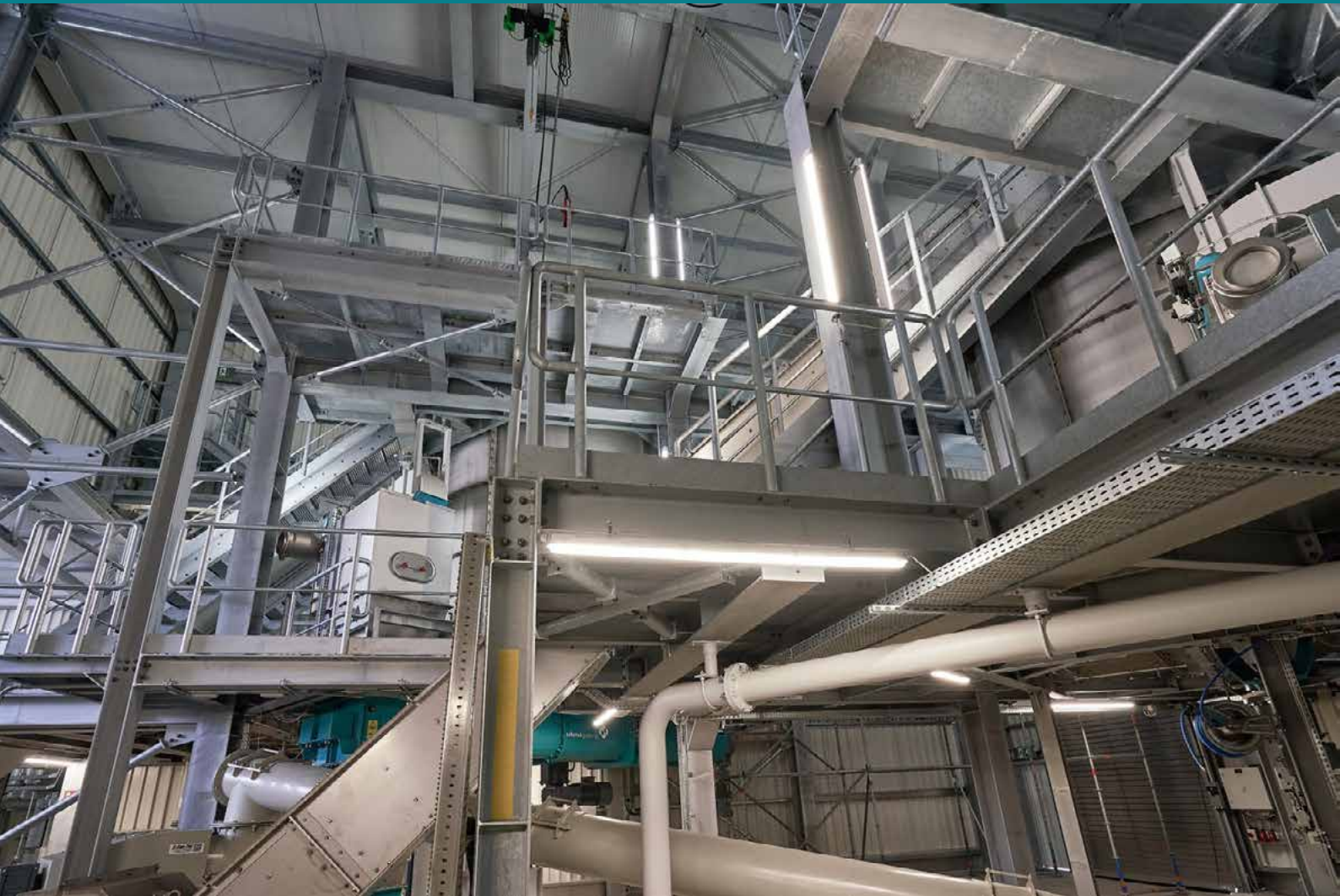
fuels for the feeding of the rotary kiln in the Solnhofen Portland cement plant

In preparation for the optimisation of the refuse-derived fuel feeding station, the existing pulverised coal feeders at the Portland cement plant in Solnhofen were converted to the latest state of the art between 2020 and 2021. The aim was to achieve a wide range of feed quantities with a very low deviation in the tolerances.

For this purpose, the dosing equipment, the steel construction, the platforms and the conveying lines were renewed. Silos were lined with stainless steel and all of this according to the latest findings.

Engineering and Planning by Intercem:

- Flowsheet
- Site plan
- Master and general arrangement drawings
- Machine layout plan
- Detailed workshop drawings
- Load and anchorage plan
- Pre-static
- Bill of quantities (preliminary)
- Motor and sensor list
- Project schedule
- Detail engineering
- Electrical engineering
- Cladding engineering
- Project management
- Steel structure assembly
- Mechanical assembly
- Electrical assembly
- Supervision
- Commissioning
- CE conform documents
- Documentation



Installation dosing unit

Scope of supply Intercem:

- Truck unloading station
- Material transport to storage box
- Loader/reclaimer system
- Material transport to preparation tower
- Material preparation
- Material transport to fuel dosing system
- Fuel dosing system
- Supporting steel structure and connection chutes
- Handrails, cladding and roofing
- Pipes for pneumatical transport
- Surface protection and painting
- Connection to the kiln main burners

The aim of the investment/optimization was to:

- Increase the substitution of alternative fuels for the rotary kiln's fuel supply
- Enable flexible feeding of individual fuel qualities
- Ensure homogenization by weighing each individual fuel
- Optimize the total output of the fuel calorific value

In preparation for the optimization of the alternative fuel feeding station:

- The feeding of various alternative fuels to the rotary kiln was addressed
- Existing pulverized coal feeders at the Portland cement plant in Solnhofen were upgraded
- The conversion to the latest state of the art occurred between 2020 and 2021



Dosing unit

The processing of alternative fuels



Processing of alternative fuels

A significant increase in substitution rates was achieved, rising from 60-65% to an impressive 90-95%. This improvement is made possible by our ability to feed very small quantities of two types of pulverized coal and to optimize the dosing of a diverse range of alternative fuels.



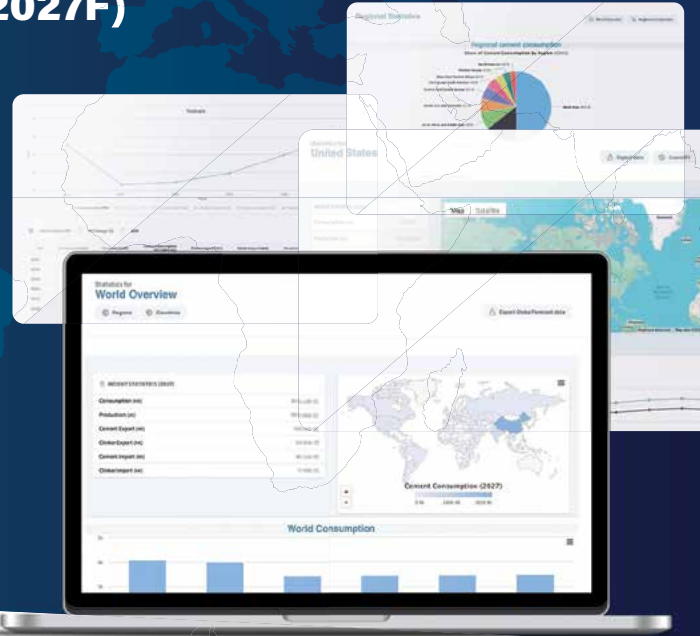
Detailed country-by-country profiles and market insights for the **TOP 50** cement markets worldwide

Global Cement Market Outlook

Market update and forecast (2022A-2027F)

This online report provides global cement market volume data and forecasts for the period 2022A-2027F. It includes individual country forecasts of the top 50 cement markets, covering 90% of global cement consumption, plus regional forecasts covering the whole world.

Each country forecast is accompanied by a narrative, with analysis and insights into the key trends in each market. View data in tables and charts or export to excel for further analysis.



Inside this report:

- Global cement volume forecast with historical time series data covering 2022A-2027F
- Individual country forecasts for top 50 cement markets, covering 90% of global cement consumption
- Regional overview and country narrative providing unique industry insights, alongside comprehensive statistical time series

Regional overviews

A dedicated overview of nine key global regions, including Indian sub-continent, North Asia, South Asia & Australia, North America, Central & South America, Western Europe, Central & Eastern Europe, North Africa & Middle East, West/East/Central Africa.

Dashboard and statistics export:

- Includes a fully integrated dashboard with statistics, charts and tables
- Export volume data to Excel for further analysis
- Time series data for the period, in million tons (Mt), includes cement consumption, cement production, plus clinker and cement imports and exports

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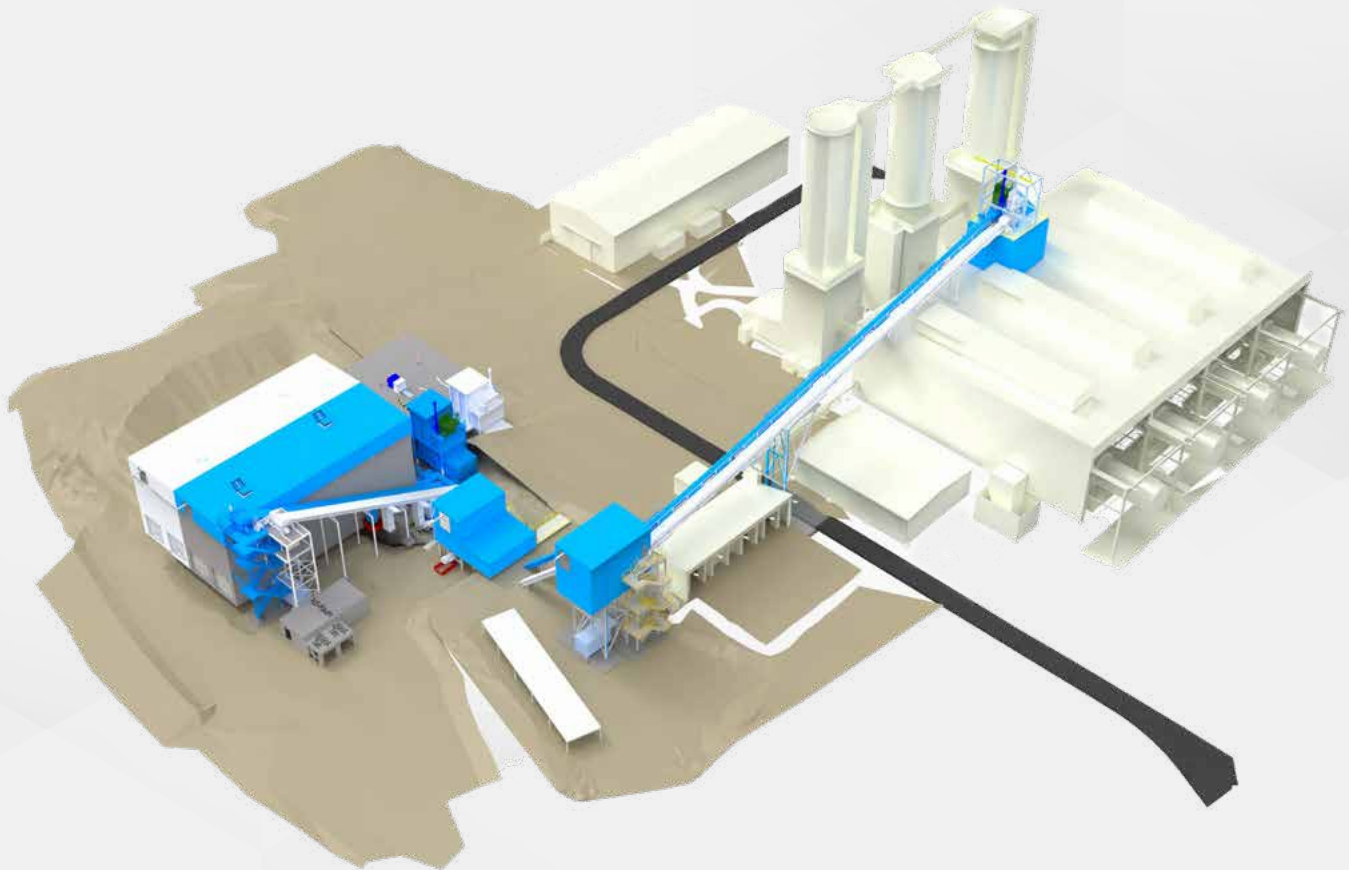
info@CemNet.com
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Case study 2 - Engineering, supply, and installation of a state-of-the-art alternative fuel plant at a European customer's facility

The customer aimed to decarbonize and reduce CO₂ emissions in the plant with four rotary kilns.



Masterlayout of the alternative fuel plant

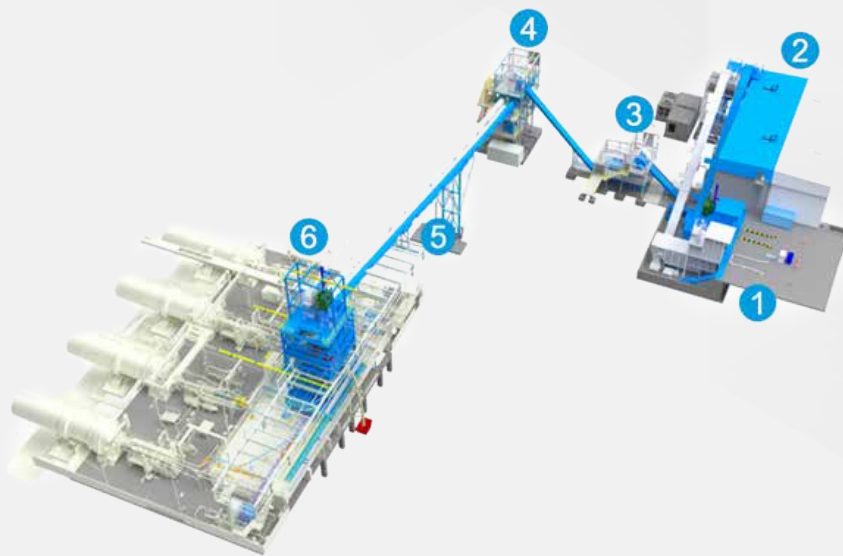
Intercem's scope of supply consisted of a truck receiving station, an alternative fuel (AF) storing with automatic reclaimer, an AF screen tower, an air-supported belt conveyor and a dosing tower with dosing units.

Description of the process:

The process begins with the delivery of fluff material to a tailor-made truck receiving station by walking floor trailers after which it is smoothly conveyed to a storage box for phase I and a second storing box in phase II, allowing for continuous material flow.

From there, the material is discharged and conveyed towards the dosing systems on the burner platform. An automatically operated reclaiming system allows smooth storing and reclaiming. The removing of foreign matters from the fluff is ensured by the meticulous sorting process.

An advanced disc screen separates oversized material from the main process flow. The alternative fuel is transported to the feeders and three dosing units for phase I, precisely supplying the main burners of the rotary kilns.



1. Truck receiving station
2. AF (alternative fuel) storing with automatic reclaimer
3. AF screen tower
4. Transfer tower
5. Air-supported belt conveyor
6. Dosing tower with dosing units

Phase I (in progress)

Phase II (extension line)

Masterlayout of the alternative fuel plant

Benefits:

Environmental Benefits

- **Reduced Carbon Emissions:** Integrating alternative fuels and optimizing resource utilization minimizes the industry's environmental impact.

Resource Optimization

- **Efficient Handling:** Streamlined handling, storage, and dosing of fluff material ensure continuous material flow and maximize fuel efficiency.

Sustainability

- **Commitment to Renewables:** Incorporating biomass processing promotes renewable energy use and ensures long-term adaptability to future fuel needs.

Operational Efficiency

- **Strategic Infrastructure:** The plant's location within existing dosing systems and precise sorting processes enhances operational efficiency and dosing accuracy.

Challenges:

Initial Investment

- **High Upfront Costs:** Building a new alternative fuel plant and integrating advanced technologies can strain finances.

Operational Complexity

- **Management Challenges:** Overseeing storage, sorting, and multiple dosing units may require extra training and maintenance.

Technical Challenges

- **Integration Difficulties:** Introducing new equipment into existing infrastructure poses engineering and installation challenges.
- **Interface Clarity:** Ensuring existing structures can support new loads is essential.
- **Experience Needed:** Extensive engineering expertise is necessary for effective integration and cost management.
- **Existing Infrastructure:** Current elements like cable trays and conveyor pipelines must be considered.

From planning to reality: some impressions of the project from the first step to the commissioned facilities.



Raw material receiving station



Raw material receiving station commissioned



AF (alternative fuel) storing with automatic reclaimer



AF (alternative fuel) storing with automatic reclaimer



Masterlayout of the complete alternative fuel plant

InterceM integrates alternative fuels into its projects, because it has realised the potential benefits on the environment and sustainability. The reduction of carbon emissions and the optimal use of resources - which are ensuring a continuous material flow and a maximal fuel efficiency - are of course the main motives, but also operational efficiency of new installations can be the incentive for the deployment of alternative fuels. The incorporation of biomass processing capabilities and the promotion of the use of renewable energy resources allow the adaptation to long-term future fuel requirements. The integration of the state-of-the-art secondary fuel plant into the existing installations was effected while the established plant continued its operations.



Alternative fuel plant after completion

Conclusion:

In order to meet the new requirements, ICE has developed tailor-made solutions to meet the challenges. The last two projects carried out in Germany show successfully installed systems with the highest availability to achieve the desired goal of CO₂ reduction.

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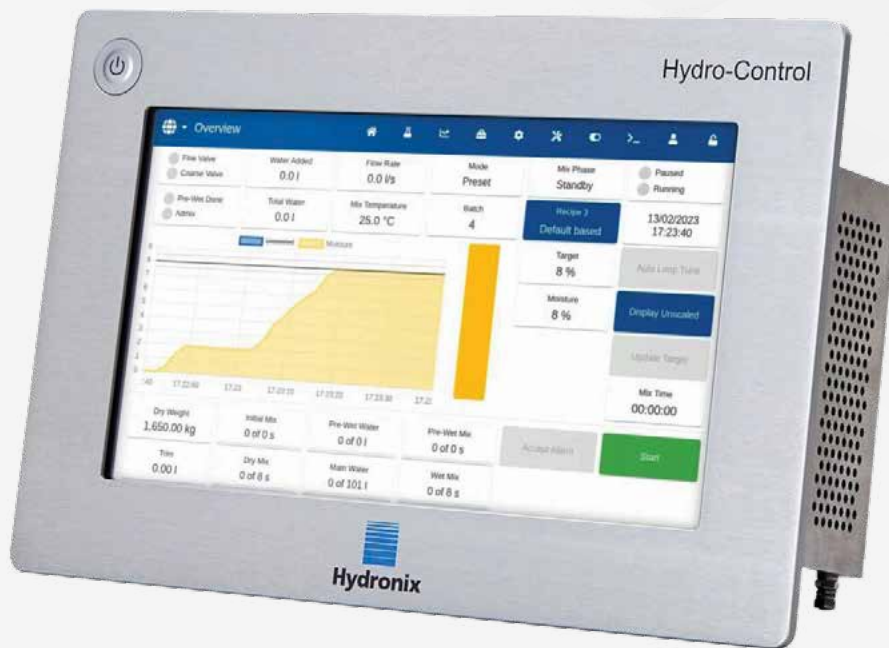
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Hydronix releases new water controller for concrete production

Hydronix is releasing the latest version of the Hydro-Control (model HC07) water controller compatible with the Hydro-Mix and the Hydro-Probe Orbiter.



bulksolids-portal

Hydronix, the leader in digital microwave moisture measurement, is releasing the latest version of the Hydro-Control (model HC07), a 10.1" touchscreen water controller compatible with the Hydro-Mix and the Hydro-Probe Orbiter.

The Hydro-Control is a stand-alone unit designed to accurately add water into a mixer, including weighed, metered, and timed methods. Different operating modes can be chosen for each recipe, enabling the most suitable option to be selected. Over 99,000 recipes can be stored.

Hydronix Hydro-Control (HC07)

The latest release of the Hydro-Control enables connection to a control system via ethernet, WEB API or an RS232 serial link. It is now possible to secure remote access through a web browser.

Neal Cass, Sales Manager at Hydronix, explains that "at Hydronix, we understand our customers' challenges and data connectivity is becoming vital. We have updated the Hydro-Control with

connectivity in mind, and the updated unit provides a flexible connection to control systems and PC."

Simplicity of use and integration

The Hydro-Control (HC07) has been designed for simplicity of use and integration; the colour display clearly indicates the mix cycle status with a continuous graphical display of moisture content. The touchscreen interface completes the intuitive look and feel of the unit. The Hydro-Control stainless steel body mirrors the other interfaces already available, such as the Hydro-View.

Neal Cass concludes that "the Hydro-Control uses a Linux OS and has had a major overhaul of its user interface whilst remaining familiar to existing Hydro-Control VI users. It's more intuitive and easier to use. It was important to us that our customers have a better experience with the unit and that the look and feel are like our other products."

Determining influencing factors precisely

Measuring system for determining moisture, temperature and homogeneity

Increasing quality requirements in product manufacturing and sampling are constantly presenting producers with new challenges. For mixing, pelletising, coating and granulating processes, it is important to know the exact process conditions in terms of moisture, temperature and homogeneity so that these can then be taken into account precisely and accurately in process control or process development.



Compact measuring unit

The particular development challenge for Ludwig GmbH was to generate a measuring unit that was as compact as possible and could be installed in even the smallest process preparation machines, e.g. for recipe testing in laboratory mixers. In recent years, very positive experience has already been gained with comparable measuring units for mixing systems from 300 to 5000 litres. The challenge now was to transform this system into a miniaturised version.

Complex challenge

The use of state-of-the-art electronics and materials was essential. In order to achieve the highest possible integration density, the measuring sensor and the evaluation unit were constructed separately from each other.

It was also necessary to take into account during development that mixing troughs can be stationary and the tools rotate, or that the mixing trough itself rotates and the tools rotate around their own axis. The sensor arrangement in the base of the mixer is crucial in order to be able to accurately detect even small partial mixtures. This also reduces the risk of material sticking to the sensor. Both battery-operated and cable-connected measuring units are therefore required.

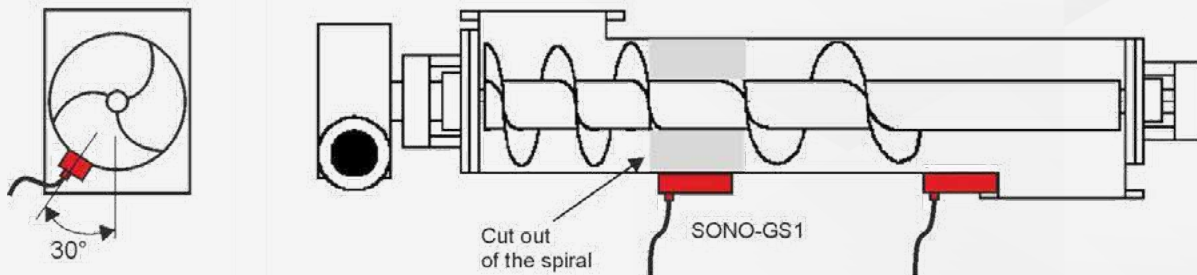
The associated software (Fig.2) can be installed independently on a laptop. Alternatively, it can be accessed via an external network. Depending on the application, different measurement modes can be parameterised to meet the individual requirements of the process. The measurement data can be transmitted and output via a WLAN UDP protocol, and digital or analogue interfaces are also available in parallel.

WLAN data transmission

All measured values are sent to a WLAN-enabled PC environment as a CSV file. There they can be used by tools such as EXCEL for effective measured value analysis, in line with Industry 4.0. The entire mixing behaviour of the materials thus becomes more transparent. This makes it easier to optimise recipes and implement them in practice. Fast and effective solutions thanks to modern technologies. Combined with the possibility of realising measurement tasks, which are the prerequisite for future-oriented processes in small mixing plants or laboratory units.



Fast and precise moisture measurement in screw conveyors



Representative conditions and decent material flow in order to actually measure the process and no artificial accumulations of material.

In order to reliably measure in bulk solids, it is necessary to determine an installation spot maintaining representative conditions and a decent material flow in the measuring field in front of the probe in order to actually measure the process and no artificial accumulations of material.

A favorable installation was realized when using a SONO-VARIO LD in Italy. The screw diameter is large enough to allow the 108 mm probe diameter to fit into the screw housing without restrictions in the geometry, causing dead ends of material flow.

Typically, the probe of choice would be a SONO-MIX Mini LD or even the larger SONO-GS1, as their rectangular geometry qualifies for easier integration into existing layouts of screw conveyors and narrow threads.

Please feel warmly welcome to contact us at any time about any application or measuring task

Increasing quality requirements in product manufacturing and sampling are constantly presenting producers with new challenges. For mixing, pelletising, coating and granulating processes, it is important to know the exact process conditions in terms of moisture, temperature and homogeneity so that these can then be taken into account precisely and accurately in process control or process development.



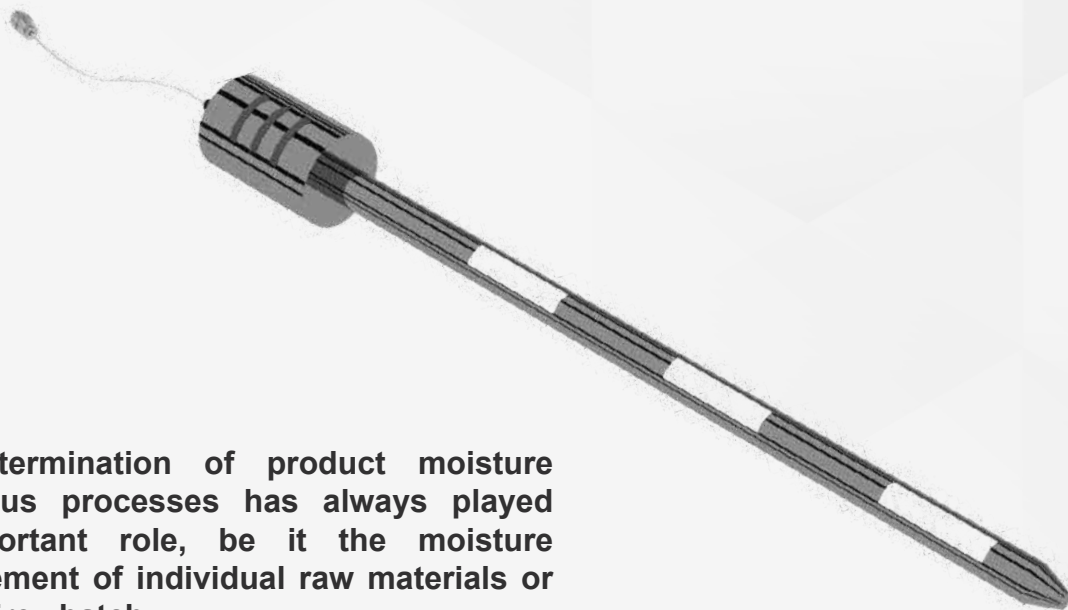
IMKO MICROMODULTECHNIK GMBH

IMKO GmbH is a state of the art producer of components and systems for moisture measurement in materials. With the SONO series, IMKO GmbH offers a new generation of moisture probes that were developed particularly for the construction industry and food production and can also be used in many other industries. Characterized by the use of the latest TRIME radar technology, the benefits are to measure material moisture precisely, directly, trouble-free, cost-effectively and plug and play with all control systems in a wide variety of applications.

Hardly any other dimension has such a decisive influence on product quality as the moisture content - in product development as well as in production itself.

The SONO series are used for inline measurements in a wide variety of materials. The improved process control optimizes output, saves energy, increases productivity and gives a significant workload relief. Both, time-intensive and labor-intensive sampling for conventional measuring devices is reduced to a minimum.

New ways of measuring moisture in the process with Ludwig



The determination of product moisture in various processes has always played an important role, be it the moisture measurement of individual raw materials or the entire batch.

In the manufacture of products, the exact moisture content is a decisive feature for dimensional accuracy, appearance, feel and durability in order to guarantee the desired quality of the product.

Economical and resource-saving

In today's world, which is accompanied by rising energy costs, moisture measurement that is well integrated into the process helps to reduce production costs.

Resource-saving handling of bulk materials is fundamental and must be aimed for. In addition, CO₂ emissions can be reduced to the necessary minimum in possible drying processes.

Optimal measurement under difficult conditions

The dielectric microwave measuring head requires direct contact with the measured medium. The high-frequency measuring signals penetrate at least 50 mm into the material to be measured, so that even deeper medium moisture levels are accurately detected and a larger quantity of bulk material is measured. The HF power of the probe absorbed by the measured medium is used for the moisture display via a calibration curve.

Moisture measurement anywhere in your process

Examples include high-performance, drying and mixing machines in which strong turbulence occurs during the mixing process, as well as dosing belts, conveyor lines and silo closures with a wide variety of nominal widths and discharge quantities. Individual problems can influence the exact function of moisture measurement sensors in all the application processes mentioned.





Use of several sensors

Different dosing capacities and speeds, a small coverage of the sensor measuring field and an uneven moisture distribution in the measured medium can pose challenges when using several sensors. During development, it was necessary to arrange several sensors in a very small space without causing interference in the high-frequency measurement signal. The advantage of a compact yet robust sensor design was retained, which makes it easier to install the sensor at suitable process points. Up to four sensors can be connected together.

- The arrangement of the individual sensors on a baffle plate, see image 1, is intended for the dosing of very small quantities or intermittent discharge of bulk materials at containers or the transfer points at various dosing devices, such as chain and screw conveyors or vibrating chutes.
- In image 2 a rod with three sensors is shown. In this way the measuring units can be easily inserted at different levels of a bulk material flow, or across the entire width of goods produced on rolls, such as textiles, fabrics, etc. using one mounting point.
- See image 3 for moisture measurement with FL-WAPP sensors in the production of insulating wool.

Tailor-made for your process conditions

The sensor models described are also available for a wide range of requirements. These include a declaration of no objection for food, animal feed, chemical and pharmaceutical production plants, for use at high temperatures up to max. 130 degrees Celsius and a version for dust protection zone 20. Thanks to extensive interfaces, the humidity measurement sensor can be easily integrated into existing process control systems. It can be connected to the process control system via analog outputs with 0-20/4-20 mA, as WLAN UDP or TCP/IP protocol and a TTL interface.

Individual measurement signals

For example, an average value of the moisture content of the measured medium can be output from all the moisture measurement signals received from the sensors. One might think that incorrect measurements are inevitable if one or more moisture measurement sensors have not detected enough material. This and other effects are avoided by intelligent filtering of the measured values of all sensors, so that a high and stable measuring accuracy of the sensor unit is guaranteed even under difficult conditions.

Franz Ludwig GmbH can look back on half a century of practical experience in the use of its own moisture measurement sensors for a wide range of process requirements. This is our incentive to continue to develop individual solutions for processes in the future and to implement them successfully in practice.

Now available - WDA4 motion alignment sensor

The WDA4 is a non-contacting high-power, extended range magnetic proximity sensor, for alignment and motion detection on bucket elevators and conveyors

4B have just launched the upgraded version of the WDA, the WDA4, now with the ability to reverse the state of the continuous output (normally energised or normally de-energised). This sensor is a great choice for measuring speed and alignment on bucket elevators and on other applications such as using the WDA switch as broken/slack chain detector on drag chain conveyors or as a non-contact speed switch for screw conveyors.

The WDA4 supersedes the WDA3 – meaning that the WDA3 is no longer ATEX approved. The WDA4 complies with the latest ATEX and IECEx certification but is not currently CSA approved.

The WDA4 is a non-contacting high-power, extended range magnetic proximity sensor, not affected by dust or material build up, used to detect moving ferrous material up to 75mm away from the sensor.

The sensor is designed for use with bucket elevators to detect the buckets in order to measure speed and alignment. It can also detect screw conveyor flights, and ferrous bolts when attached to non-ferrous buckets. A more specialized use of the WDA sensor is for broken/slack chain detection.

The WDA4 is used in conjunction with a PLC or with 4B's Watchdog™ Elite or A400 Elite control units. Two output signals are provided: one signal is a pulse output, representing each bucket detected: the second signal is a continuous output when moving buckets are detected. The continuous output can be wired normally energized or normally de-energized.



3D Visualization: Preview systems before they come to life

Innovation in the planning phase through 3D visualization. At a time when technology is constantly pushing the boundaries of what is possible, Greif-Velox is setting a new standard in the visualization of future systems.

New standards in plant visualization

By using advanced 3D visualization techniques, the company offers its customers the unique opportunity to experience and assess their future systems as early as the quotation phase.

Detailed models for precise planning

This innovative technology makes it possible to create a detailed model of the planned system based on the existing construction plans. Customers and project teams can thus view the future system from all conceivable perspectives and take the real spatial situation into account in advance. This early visualization not only facilitates planning and decision-making, but also optimizes the entire project development by creating a deeper understanding of the end product.

Accessibility and flexibility through online viewer

The current planning status can be accessed from anywhere via a special online link in the Autodesk viewer. This ensures that the components used can be checked and adapted long before the physical implementation begins. The ability to intervene at an early stage minimizes risks and increases the efficiency of the entire project.



bulksolids-portal

Simplified information gathering and decision-making

3D visualization is more than just a technical gimmick; it is an essential tool that simplifies information gathering and enables both clients and project teams to make informed decisions. By intuitively visualizing the future project, all stakeholders can develop a clearer understanding of the end product, ultimately leading to greater satisfaction at completion.

Conclusion: Increasing efficiency in project development

At a time when efficiency and accuracy in the planning phase are of paramount importance, Greif-Velox is once again proving its leadership in the industry. By introducing 3D visualization into its processes, the company is setting new standards for the future of plant design and development.

UWT's latest products set new standards for the industry

Precise level measurement and innovative signaling

With increasing demands for process automation and safety, UWT expands its portfolio with innovative solutions for precise level detection and visualization. The Vibranivo® VN 7, a compact vibrating level switch designed for confined spaces; the NivoRadar® sensors NR 3 and NR 8 for non-contact measurement of bulk solids and liquids in the most challenging applications; and the NivoLED® signal lamp for clear status visualization offer the highest precision, reliability, and effortless integration into industrial processes.



bulksolids-portal

Compact Precision

The Vibranivo® VN 7 vibrating fork is designed for reliable liquid detection, performing exceptionally even in tight installation spaces such as tanks or pipes. Its compact design and adaptability provide maximum flexibility for various industries – from food production and pharmaceuticals to wastewater management. This one-piece stainless steel sensor offers high resistance to aggressive media and withstands extreme temperatures and pressures. Economically engineered without compromising quality, the “install and forget” technology enables immediate, low-maintenance commissioning without calibration.

High-Precision Radar Technology

With the NivoRadar® NR 3 and NR 8 series, UWT offers a robust solution for continuous level measurement. The NR 3 specializes in non-contact measurement of bulk solids, delivering precise results even in explosive environments and under high pressure. Equipped with a high-temperature standpipe, it can withstand temperatures up to +1,200 °C (2,192 °F) – ideal for extreme applications.

Both series feature a high dynamic range, ensuring accurate measurements even with low-dielectric materials. The 80 GHz technology and narrow 3° beam angle provide precise results, even in narrow silos, with a measurement range of up to 120 meters (393 feet).

The NR 8 is especially suitable for liquid detection and is available in a hygienic version. It handles extreme conditions effortlessly, with resistance to temperatures up to 450 °C (842 °F) and pressures up to 160 bar (2,320 psi), making it ideal for demanding applications.

Both series offer versatile configurations, easy and intuitive setup via the UWT LevelApp, display, or PACTware, and seamless integration into automation systems.














Unique Signal Lamp for Maximum Safety

With the NivoLED® NL 9, UWT introduces a robust, unparalleled signal lamp designed for hazardous areas. Equipped with advanced protection ratings, it withstands harsh weather conditions and exposure to chemicals.

This indicator lamp, with dual-color switching and 360° visibility, displays switching states or status information even under challenging visibility conditions and from long distances. Its compatibility with level sensors and all common relay and transistor outputs enables easy integration into control cabinets and process systems. With various versions available, including multiple power supply options, it is ideally suited for industrial environments with the highest safety requirements.

CHOOSING THE RIGHT RADAR

					
120 m	120 m	75 m	75 m	30 m	15 m
contact-free	contact-free	guided wave	guided wave	contact-free	contact-free
80 GHz	80 GHz	2 GHz	2 GHz	80 GHz	80 GHz
3° beam angle	3° beam angle	≤ 3 seconds	≤ 3 seconds	4° beam angle	8° beam angle
280 °C	450 °C	200 °C	450 °C	80 °C	80 °C
40 bar	160 bar	40 bar	400 bar	3 bar	3 bar
optional aiming flange	PTFE coated antenna	customizable extensions	customizable extensions	optional mounting flange	optional plug on display
NivoRadar® NR 3000	NivoRadar® NR 8000	NivoGuide® NG 3000	NivoGuide® NG 8000	NivoRadar® NR 4000	NivoRadar® NR 7000

				
NR 8100 Plastic horn antenna	NR 8200 Threaded antenna	NR 8300 PTFE-encapsulated antenna	NR 8400 Hygienic antenna	NR 8500 High-temperature version



Level measurement and monitoring for enhanced safety

Precise level measurement is a key factor for efficiency and safety in modern industry. UWT offers a comprehensive range of solutions that combine various technologies and measurement principles.

From LED digital displays to web server modules with visualisation software – the systems are flexibly adaptable and highly versatile.

Versatile Measurement Principles

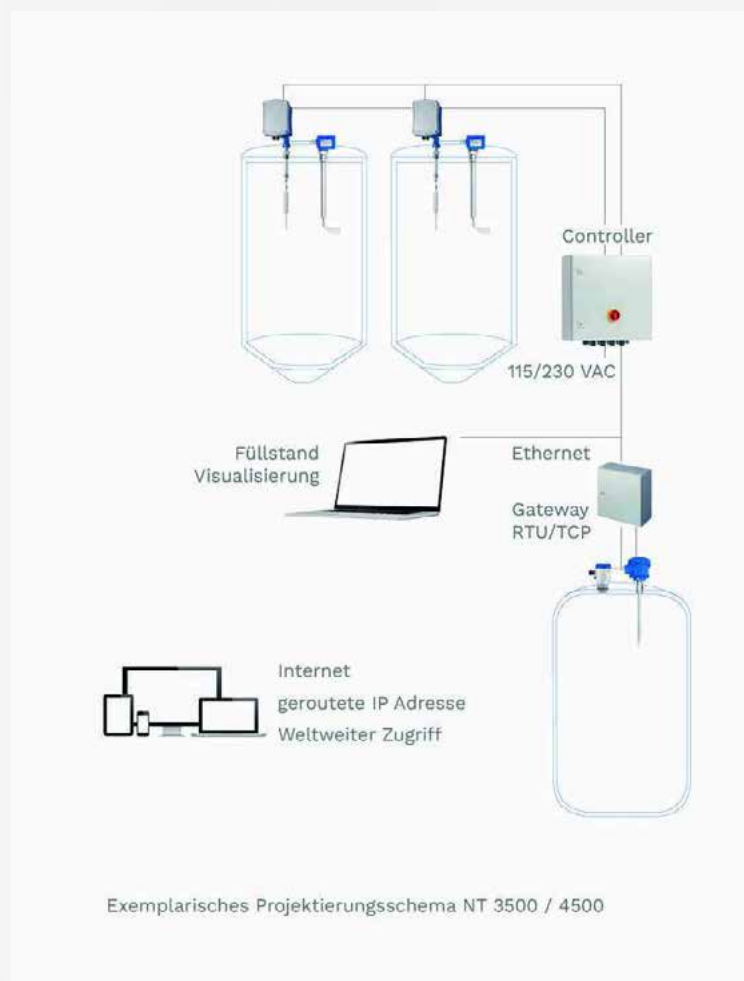
Depending on the medium and application, different measurement principles are employed. Reliable point level measurement is ensured by level switches such as tuning fork sensors, rotary paddle detectors, capacitive sensors, or vibration rods. For continuous level measurement, guided wave radar systems or non-contact radar sensors are suitable. Additionally, interface measurement enables the precise detection of phase boundaries between different media, such as liquids of varying densities or solid and liquid phases, contributing to the optimisation of complex processes.

Flexibility in Visualisation

Visualisation solutions deliver information exactly where it is needed – whether in the production hall, the office, on mobile devices, or at external locations. Depending on the requirements, the range extends from simple digital displays to networked web server solutions that can also connect silo systems across multiple locations.

Centralised Control and Automation

Centralised access to fill levels in silos, tanks, and process containers optimises material procurement, saving time and costs. UWT's NivoTec® series offers complete systems for level indication, trend analysis, data storage, and remote queries. These automated systems can be customised to fit specific plant concepts and integrate safety devices. Limit switch signals reliably control safety-critical modules such as pinch valves for overflow protection and prevention of incorrect filling. Optical and



acoustic signal devices, such as horns, signal lights, and flashing lamps, further enhance safety.

Smart Alarm and Communication Solutions

The integrated visualisation software of the NivoTec® series enables alarms to be sent via email or SMS to authorised personnel, communicating material requirements, plant malfunctions, or critical fill levels. With a variety of interfaces, including 4-20mA, Modbus RTU, Ethernet, and digital inputs and outputs, the systems ensure seamless communication.

Local Display and Safety

For local display, the NivoLED® NL 9000 provides a reliable solution with 360° visibility and two-colour switching, even in hazardous areas. The signal light can be easily integrated into control cabinets or process systems and is compatible with standard level sensors as well as relay and transistor outputs.

UWT's Versatile Level Monitoring Solutions:

- **NivoTec® NT 3500 | Custom project visualisation**

The NT 3500 system is ideal for reliable monitoring of fill and limit levels in silo, tank and process containers. It enables the visualisation and scheduling of fill levels via PCs, laptops, tablets and smartphones. Locations can be networked and interfaces to ERP systems can be established. This flexible system allows both old and new systems to be integrated and analysed, regardless of their size.

- **NivoTec® NT 4500 | Standardised visualisation**

The NT4500 offers cost-efficient, standardised monitoring of up to 50 containers. Fill levels can be visualised on various devices via a web server system and several locations can be networked.

- **NivoTec® NT 4600 | 7 inch touch panel visualisation**

This system is designed for monitoring fill and limit levels via a 7" touch panel. It enables economical project planning and the evaluation of up to 15 level sensors and max. level indicators. The NT 4600 can be used as a built-in module in existing control cabinets or as a complete module in pre-wired control cabinets.

- **NivoTec® NT 4700 | Level Indicator one container**

The NT 4700 is perfectly suited for the local display of fill levels using a digital display. These modules are particularly cost-effective and flexible to install, making them an ideal solution for applications that require a simple and quick display.



- **NivoTec® NT 4900 | Level indicator for control cabinet**

This LED display module is designed for integration into existing control cabinets and offers an inexpensive option for the local display of fill levels via a 4-20 mA signal.

- **NivoTec® NT 9000 | Local fill level display**

The NT 9000 offers a direct display of 4-20 mA signals. It can be used with both passive two-wire and active four-wire sensors. The display unit enables the output of fill levels in volume, height, per cent or weight. The NT9 is suitable for indoor and outdoor use and thus enables quick and easy reading of values in easily accessible locations.

- **NivoLED® NL 9000 | LED signal lamp**

The NL 9000 is a compact LED indicator light that has been specially developed for potentially explosive areas. With its two-colour switching capability, 360° visibility and high luminosity, it enables reliable visualisation of switching statuses - even from a great distance. It can be flexibly mounted directly on the sensor, on the control cabinet, in process systems or on other electrical equipment.

Customised for every system

With the NivoTec® product range, the NivoLED® light and a wide selection of measurement technology solutions, UWT guarantees maximum precision and reliability in level monitoring - customised for every system. By integrating fully automated systems and comprehensive safety measures, the process industry is optimally supported and protected against potential risks.

Discover how the innovative UWT solutions make your processes safer and more efficient - find out more in the blog section "Level Measurement Explained" on the UWT website.

14-16

April 2025

CemEnergy 2025

**Grand Hotel Europe,
St. Petersburg, Russia**

info@allinform.ru

press@allinform.ru



Tel.: (+7 812) 3350992

06-08

13-14

May 2025

INTERCEM Asia 2025

**Intercontinental Hotel
Bangkok, Thailand**

For more information, please contact:
**Ms. Lola Carragher, Commercial
Sales Manager**



Low Carbon Fuels MENA

Dubai, UAE



14-15

15-17

May 2025

**2nd Global CemCCUS Conference,
Exhibition and Awards 2025**
Carbon capture, utilisation and sequestration
for cement and lime

Vienna, Austria

For more information, please contact:
Dr. Robert McCaffrey
Tel.: +44 1372 743837
Fax: +44 1372 743838



CEMENTTECH 2025

The 26th China International Cement Industry Exhibition

**Hefei Binhu International Convention
and Exhibition Center, China**

For more information, please contact:
Ms. Joanna Long
Tel.: +86-10-88083329



02-05

03-04

June 2025

Cemtech ASIA 2025
Decarbonising the Asian cement sector

Conrad Hotel, Seoul, South Korea



**Cementitious Materials International
Technical and Trade Congress | EMEA**

Cairo, Egypt

For more information, please contact:
Industry Link
**Ms. Mariana Gheorghe, Marketing and
Program Manager**
Tel.: +40726 497 448





CEMENERGY

VII INTERNATIONAL CONFERENCE

VII International cement business conference



April 14-16, 2025

GRAND HOTEL EUROPE \ ST. PETERSBURG \ RUSSIA

info@alitinform.ru

+7 (812) 335 0992

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СОЮЗ ПРОИЗВОДИТЕЛЕЙ ЦЕМЕНТА
СОЮЗЦЕМЕНТ



АССОЦИАЦИЯ
БЕТОННЫХ ДОРОГ

14-15 MAY 2025

VIENNA, AUSTRIA

2nd global cemCCUS™

CONFERENCE, EXHIBITION & AWARDS

Carbon capture, use/storage for cement and lime

Regulatory trends; Technology advances; Gas conditioning; Process control; Logistics; Sequestration; Upcycling CO2; Project management & finance

cemCCUS.com

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With Holcim Mannersdorf CCUS plant visit

25-26 JUNE 2025

VIENNA, AUSTRIA

17th global slag™

CONFERENCE, EXHIBITION & AWARDS

Profiting from slag

Improving slag performance
New applications for slag
Global slag markets and trading

globalslag.com

#globalslag

With voestalpine stahl Donawitz GmbH plant visit



17-18 SEPTEMBER 2025

MILAN, ITALY

18th global cemfuels™

CONFERENCE, EXHIBITION & AWARDS

Alternative fuels and H2 for cement and lime

The global state-of-the-art in alternative fuels
Global, regional and national market trends
Technological developments and case studies

cemfuels.com

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With 'Introduction to alternative fuels' short course



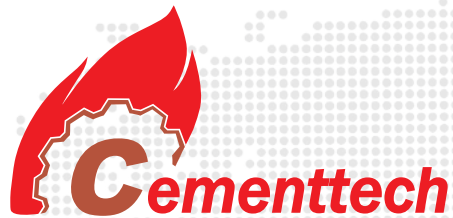
Organised by:

global cement™
MAGAZINE

All Enquiries

Exhibition and sponsorship:
paul.brown@propubs.com

Programme and speakers:
robert.mccaffrey@propubs.com



CEMENTTECH 2025



May 15-17, 2025



Hefei Binhu International Convention and Exhibition Center, China

Organizer:



China Building Materials Federation



China Cement Association



CCPIT Building Materials Sub-council

Exhibition/Conference/Plant Tour/City Walk

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CEMENTTECH

www.cementtech.org

04-05

Sustainability & ESG International Summit

 **Cairo, Egypt**

For more information, please contact:

Industry Link

Ms. Mariana Gheorghe, Marketing and Program Manager


Tel.: +40726 497 448



25-26

17th Global Slag Conference

Slag beneficiation, slag products, slag cements, slag markets and slag applications

 **Imperial Riding School Hotel, Vienna, Austria**

For more information, please contact:

Dr. Robert McCaffrey

Tel.: +44 1372 743837


Fax: +44 1372 743838



June 2025

23-24

24th Asia CemenTrade Summit 2025

 **Bali, Indonesia**

For more information, please contact:

Lee Lin

Tel.: +65 6346 9146



July 2025

15-16

CarbonZero Alternative Fuels & Raw Materials Global Conference and Exhibition

 **Bucharest, Romania**

For more information, please contact:

Industry Link

Ms. Mariana Gheorghe, Marketing and Program Manager

Tel.: +40726 497 448



16-17

Women in Cement & Concrete International Congress | EMEA

 **Bucharest, Romania**

For more information, please contact:

Industry Link

Ms. Mariana Gheorghe, Marketing and Program Manager

Tel.: +40726 497 448



October 2025

23-25

Cement & Concrete Conference & Exhibition – Syria 2025

 **Syria – Damascus Fairground**

For more information, please contact:

CEMTECH Group

Tel.: +963988413989 / +963969019984 / +963114476769



October 2025

04-07

CUSCIT'25 Cement Olympics

 **Gloria Golf Resort, Belek/ Antalya, Turkey**



November 2025



Sustainability & ESG

International Summit

Cairo, Egypt | 04 - 05 June 2025

The SESG summit brings together leaders and professionals to explore the latest trends, strategies, and innovations in Sustainability and ESG within the cement and construction industry. It's an ideal platform to discuss how the sector can drive sustainable development and green building practices.

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GLOBAL CONFERENCE & EXHIBITION

15-16 OCTOBER

BUCHAREST, ROMANIA

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CemNet e-Learning:



<p>6-Week Online Trainings</p> <p>07 April 2025 07 July 2025 06 October 2025</p> <p>Decarbonising Cement Manufacture Cement Manufacturing Technology Cement Kiln Process Chemistry</p>	<p>3-Week Online Trainings</p> <p>14 April 2025 14 July 2025 20 October 2025</p> <p>Calcined Clay Cement</p>	<p>3-Week Online Trainings</p> <p>14 April 2025 14 July 2025 06 October 2025</p> <p>Alternative Fuels for Firing Cement Kilns</p>	<p>6-Week Online Trainings</p> <p>28 April 2025 16 July 2025 20 October 2025</p> <p>Grinding and Milling Systems Cement Factory Quality Control</p>
<p>3-Week Online Trainings</p> <p>13 October 2025</p> <p>Fly Ash Cements</p>	<p>6-Week Online Trainings</p> <p>14 July 2025</p> <p>Cement Kiln Refractories</p>	<p>6-Week Online Trainings</p> <p>28 April 2025 13 October 2025</p> <p>White Cement Manufacturing</p>	<p>6-Week Online Trainings</p> <p>14 April 2025 07 July 2025 13 October 2025</p> <p>Cement Kiln Pyroprocessing Cement Factory Maintenance</p>

Ceramic

<p>18-22 April 2025</p> <p>2025 Uniceramics Expo</p> <p>Foshan Tanzhou International Convention and Exhibition Center, China</p> <p>For more information, please contact: Mob: +86 18566021320</p>  	<p>29th April – 2nd May</p> <p>Coverings 2025</p> <p>Orlando, Florida, USA</p> 
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18-21

June 2025

CERAMICS CHINA 2025
39th China International Exhibition for Ceramics Technology, Equipment and Product

Area A of the Canton Fair Complex, Guangzhou, China



Evolving the well-established

Training Programme 2025

Online Seminars

Cements of the Future
31 March 2025

Firing Alternative Fuels
15 - 18 September 2025

**Strategies for the Decarbonisation of the
Cement Industry**
7 - 10 October 2025

In-class Training

**Crash Course on Cement Production
and Use**
27 - 31 October 2025

Basics of Cement Chemistry
25 - 26 November 2025

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Germany




<p>03</p> <p>Raw materials for ceramic use 2,30 pm to 5,30 pm , Rome time Faculty: Siti B&T faculty team →</p>	<p>09 April 2025</p> <p>Body preparation (grinding_ spray drying) from 2,30 pm to 4,30 pm Rome Time Faculty: Siti B&T faculty team →</p>
<p>14 and 17</p> <p>Presses in the ceramic tiles industry from 2,30 pm to 4,30 pm Rome time Faculty: Siti B&T faculty team →</p>	<p>21 and 24 April 2025</p> <p>Drying of ceramic products 21th from 2.30 pm to 5.30 pm; 24th from 2.30 pm to 4.30 pm Rome time Faculty: Siti B&T faculty team →</p>
<p>28 April 2025</p> <p>Digital decoration in the ceramic tiles sector from 2,30 pm to 5,30 pm Rome time Faculty: Siti B&T faculty team →</p>	
<p>5,8,12,15</p> <p>Firing for ceramic products and roller kiln 5th from 2,30 pm to 5,30 pm 8th from 2,30 pm to 4,30 pm 12th and 15th from 2,30 pm to 5,30 pm Rome time Faculty: Siti B&T faculty team →</p>	<p>19 and 22 May 2025</p> <p>Management of storage, sorting, packaging and palletization of ceramic tiles 19th from 2,30 pm to 5,30 pm 22th from 2,30 pm to 4,30 pm Rome time Faculty: Siti B&T faculty team →</p>
<p>02 and 05</p> <p>LGV + UTE PROBLEMS from 2,30 pm to 4,30 pm Rome time Faculty: Siti B&T faculty team →</p>	<p>09 June 2025</p> <p>Subformats from cutting and squaring from 2,30 pm to 6,30 pm Rome time Faculty: Siti B&T faculty team →</p>
<p>16</p> <p>Ceramic surface finishing from 2,30 pm to 6,30 pm Rome time Faculty: Siti B&T faculty team →</p>	<p>23 June 2025</p> <p>Ceramic slabs finishing process from 2,30 pm to 6,30 pm Rome time Faculty: Siti B&T faculty team →</p>

02-04

Machine building and metalworking – 2025

 **Atakent Exhibition Center, Almaty, Kazakhstan**

machinebuilding@atakentexpo.kz 

venera@atakentexpo.kz 



07-10

FRAGBLAST 2025 | 14th International Symposium on Rock Fragmentation by Blasting

 **Antalya, Türkiye**

Prof. Dr. Ümit Özer,
Chairperson of
FRAGBLAST 14 


Dr. Abdulkadir
KARADOĞAN
(General Secretary) 

Mehmet MAKAR
(Technical Secretary)



07-13


bauma 2025

 **Exhibition Center, Munich, Germany**

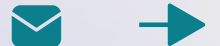


08-10

CEM Middle East Conference and Exhibition on Emissions and Air Quality Monitoring

 **Gulf Hotel and Convention Centre, Manama, Bahrain**


For more information, please contact:
Tel.: +44 1727 858840



April 2025

08-09

VI. International Drilling Congress and Exhibition of Türkiye (Drilling Türkiye 2025)

 **Ankara, Türkiye**

For more information, please contact:
TMMOB Chamber of Mining Engineers
İlker Ertem, Congress Chairman



20-23

15th Iraq international building, construction and machinery exhibition

 **Erbil International Fairground, Iraq**

For more information, please contact:
Pyramids group fairs
Tel.: +90 216 5752828



27-31

22nd Edition of Syria BuildEx

 **Damascus, Syria**

For more information, please contact:
Pyramids group fairs
Tel.: +90 216 5752828



May 2025

16-18 June 2025

EUROCOALASH 2025 International Conference

 **IMT Nord Europe University, Lille, France**



05-07 August 2025

18th JORDAN BUILD 2025


 **Amman, Jordan**

For more information, please contact:
Mrs. Muna Alkam, General Manager
Global Exhibition Est
Mob.: +962 795926237
Tel.: +962 6 5690066 / 5690067



08-09 September 2025

5th ICCCM

 **Munich, Germany**



23-25 October 2025

MERSEM 2025

12th International Marble and Natural Stone Congress




Afyon Kocatepe University's Atatürk Congress Center, Afyonkarahisar, Türkiye



11-14

IMCET 2025

29th International Mining Congress and Exhibition of Türkiye

 **Antalya, Türkiye**

For more information, please contact:
Dr. Nejat Tamzok, Congress Chairman



17-18

Mining Show 2025

 **Za'abeel Halls, Dubai World Trade Centre, UAE**



November 2025

18-19 March 2026

Solids, Recycling-Technik

 **Dortmund, Germany**



04-08 May 2026

IFAT Munich 2026

World's Leading Trade Fair for Water, Sewage, Waste and Raw Materials Management

 **Munich, Germany**



24-27 November 2026



Shanghai New International Expo Centre, China

bauma China 2026





مجلة عالم الإسمنت ومواد البناء

جدول موضوعات المجلة لعام 2025

المناسبات	الموضوعات	العدد
	<ul style="list-style-type: none"> * المعالجة الحرارية * الحكم في العمليات والتحسين نحو الأمثل * هندسة عمليات الإسمنت * أفران الإسمنت * معالجة النفايات الخطرة ومراحل ما قبل معالجتها * معالجة غازات المداخن * التحول الرقمي * الرقمنة في صناعة الإسمنت * الحراقات وعمليات الحرق * تطوير المشاريع * التحديث والأتمتة * تحليل الغازات * الاختبار والتحليل * معدات المختبرات 	<p>يونيو/حزيران 2025</p> <p>(العدد رقم 100)</p>
<p>المؤتمر والمعرض العربي الدولي الثامن والعشرون لصناعة الإسمنت ومواد البناء</p> <p>دبي الإمارات العربية المتحدة</p> <p>11 - 13 نوفمبر/تشرين الثاني 2025</p>	<ul style="list-style-type: none"> * التعبئة والتغليف * أنظمة التحميل / التفريغ والتخزين * حلول النقل * تكنولوجيا التغذية * سيور الرافعات الدلوية * مناولة المواد في مصانع الإسمنت والمحاجر والمحطات والموانئ * القباب والصوامع والنقل * الحماية من التآكل * التروس والمحركات والتزييت * أنظمة الحماية من الحريق * إجراءات الصيانة * الحرايات * تأهيل المحاجر * تنظيف الصوامع * المرشحات وإزالة الغبار 	<p>سبتمبر/أيلول 2025</p> <p>(العدد رقم 101)</p>

المناسبات	الموضوعات	العدد
	* المبردات * المراوح * مدافع الهواء * الصحة والسلامة المهنية * تكنولوجيا الطحن * الطواحين العمودية * زيادة إنتاج مطحنة الإسمنت * التكسير * مساعدات الطحن والطحن * استعادة الحرارة المفقودة * التصوير الحراري * إعادة التدوير الحراري * طرق معالجة واستخدام غبار الممر الجانبي * الحماية من الانفجار في صوامع تخزين الوقود البديل * أنظمة مناولة الوقود البديل * إنتاج واستخدام الوقود الصلب المستعاد	ديسمبر/كانون الأول 2025 (العدد رقم 102)

آخر موعد لاستلام المقالات أو النصوص الصحفية أو الإعلانات لأعداد عام 2025:

1. عدد يونيو / حزيران : 29 مايو / أيار 2025
2. عدد سبتمبر / أيلول (عدد خاص) : 24 سبتمبر / أيلول 2025
3. عدد ديسمبر / كانون الأول : 8 ديسمبر / كانون الأول 2025

الإعلانات

(بالدولار الأمريكي)

الإعلان في عدد واحد	الإعلان في عددين	الإعلان في ثلاثة أعداد	الإعلان في أربعة أعداد	
1,250	*	*	*	غلاف خارجي ملون
750	950	1,250	1,350	صفحة داخلية ملونة (A4)
450	550	650	750	نصف صفحة داخلية ملونة (A5)
300	350	400	450	ربع صفحة داخلية ملونة (210*75 مم)

أبعاد الإعلان على الغلاف الخارجي: ارتفاع 20 سم وعرض 20 سم

الدقة: 300dpi

نوع الملف: PSD أو EPS أو PDF

إعلان على موقع الاتحاد www.aucbm.net

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- يرجى إرسال الصور مع اللينك المطلوب ربطه بها بدقة 300 dpi (dot per inch)



الإمارات العربية المتحدة

تماشياً مع مبادرة الإمارات لتحقيق صافي انبعاثات صفرية، «إسمنتيل» تتبنى استراتيجية شاملة لإزالة الكربون

كشفت مجموعة «إسمنتيل» لإنتاج الحديد ومواد البناء عن استراتيجية طموحة لخفض الانبعاثات الكربونية، في إطار التزامها بتعزيز الاستدامة في قطاعي الحديد ومواد البناء. وتهدف المجموعة إلى تقليل الانبعاثات المطلقة للغازات الدفيئة بنسبة 40% في وحدة إنتاج الحديد، وبنسبة 30% في وحدة إنتاج الإسمنت بحلول عام 2030، وذلك استناداً إلى محددات عام 2019 كسنة أساس، وصولاً إلى تحقيق الحياد الكربوني بحلول عام 2050.

ولتحقيق خفض ملموس في انبعاثات ثاني أكسيد الكربون، تركز المجموعة على تنفيذ استراتيجيات رئيسية لإزالة الكربون، تشمل تحسين كفاءة الطاقة، واعتماد تقنيات متقدمة لتعزيز كفاءة العمليات، إلى جانب استخدام الوقود البديل والمواد الخام المستدامة في إنتاج الحديد والإسمنت. كما تسعى المجموعة إلى تسريع الاعتماد على مصادر الطاقة النظيفة والمتجددة، بهدف تغطية كامل احتياجاتها من الكهرباء بحلول عام 2030.

وتُعد صناعات الحديد والإسمنت من بين أكثر القطاعات توليداً للكربون على مستوى العالم، حيث تسهم بحصة كبيرة من انبعاثات الغازات الدفيئة. وانطلاقاً من وعيها بالتحديات والفرص الاجتماعية والاقتصادية الكبيرة المرتبطة بعملية إزالة الكربون، تلتزم «إسمنتيل» بخفض انبعاثاتها من النطاقين 1 و2 بشكل ملموس خلال السنوات المقبلة. وقد حققت المجموعة تقدماً ملحوظاً في تقليل انبعاثات النطاقين 1 و2، إلى جانب خفض كثافة الانبعاثات خلال الفترة من 2019 إلى 2023. واعتباراً من عام 2023، بلغ إجمالي انبعاثات النطاقين 1 و2 في «إسمنتيل» 4.5 مليون طن من ثاني أكسيد الكربون، مسجلاً انخفاضاً بنسبة 23% مقارنة بعام الأساس 2019.

alkhaleej.ae

المملكة العربية السعودية

«إسمنت المدينة» توقع اتفاقية إمداد الغاز الطبيعي مع «أرامكو»

وقعت شركة إسمنت المدينة اتفاقية إمداد الغاز الطبيعي مع شركة البترول العربية السعودية «أرامكو السعودية».

وقالت الشركة في بيان لها إن هذه الاتفاقية تحت مظلة برنامج إزاحة الوقود السائل، وامتداداً لجهود وزارة الطاقة ووزارة الصناعة والثروة المعدنية لتحقيق مستهدفات البرنامج.

وذكرت أن عملية التحول من استخدام الوقود السائل إلى استخدام الغاز الطبيعي ستسهم في خفض الانبعاثات الناتجة عن عمليات الإنتاج للشركة، وزيادة موثوقية العمليات التشغيلية على أن يتم الإعلان عن الأثر المالي لاحقاً.

كما وقعت شركة إسمنت المدينة اتفاقية مع الشركة الوطنية لنقل الكهرباء - التابعة للشركة السعودية للكهرباء - لتنفيذ مشروع إنشاء محطة نقل كهرباء بهدف إيصال الخدمة الكهربائية لمصنع الشركة الواقع في مرات بحمل كهربائي قدره (105.5 م.ف.أ) ضمن برنامج إزاحة الوقود السائل وفقاً للاتفاقية الموقعة والسارية حتى 31 ديسمبر/ كانون الأول 2025 أو حتى اكتمال المشروع.

وقالت الشركة في بيان لها إن هذه الاتفاقية تأتي امتداداً لعمل منظومة الطاقة ومنظومة الصناعة والثروة المعدنية لتحقيق مستهدفات إزاحة الوقود السائل.

وأضافت أن هذا المشروع سيساهم في خفض الانبعاثات الناتجة من إنتاج الكهرباء داخل مرافق الشركة، وزيادة موثوقية العمليات التشغيلية، مُشيرة إلى أنها ستعلن عن الأثر المالي لاحقاً.

argaam.com

الجمهورية العربية السورية

شركة النهضة توقع عقد تصدير 40 ألف طن إسمنت إلى سوريا

في إطار تعزيز التعاون التجاري وتوسيع نطاق الصادرات المصرية، تم توقيع عقد تصدير 40 ألف طن إسمنت من إنتاج إسمنت النهضة إلى سوريا.

ويأتي هذا التعاون في إطار حرص إسمنت النهضة على توسيع أسواقها الخارجية، وتقديم منتجات عالية الجودة تلبي احتياجات قطاع مواد البناء في المنطقة.

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جمهورية العراق

أكبر مصانع الإسمنت في العراق يعود الى الحياة

أعلنت مديرية بيئة كركوك عن معاودة العمل في مصنع إسمنت كركوك بعد تنفيذ أعمال الصيانة اللازمة، والتي تضمنت تطبيق المعايير البيئية في الملوثات ومعالجة المرسبات الخاصة بالغبار. وكانت مديرية البيئة قد أصدرت قراراً سابقاً بغلاق المعمل بسبب وجود مخالفات بيئية.

وقد قامت المديرية بالتعاون مع ممثل الدائرة الشمالية، بزيارة إلى مديرية معمل إسمنت كركوك لمتابعة التزام المصنع بتطبيق المعايير البيئية وضمان تنفيذ الأعمال التي أدت إلى توقف المعمل.

وجرت الزيارة الرقابية البيئية للمعمل بعد إتمام أعمال الصيانة والتأهيل من قبل إدارة المعمل، حيث تم أخذ قياسات لنسبة الملوثات المطروحة في الهواء (TSP) بهدف تقييم عمل النشاط الصناعي والتأكد من مطابقته مع المعايير البيئية المطلوبة، كما تم ملاحظة صيانة وحدات المعالجة والمرسبات الخاصة بأنبعاث الغبار.

وكانت مديرية بيئة كركوك قد قررت غلق المعمل التابع لوزارة الصناعة والمعادن في 12 نوفمبر / تشرين الثاني 2024، بعد عدم امتثاله للمعايير البيئية، وفرضت حينها غرامة مالية بسبب تلوث الهواء الناتج عن انبعاث الغازات الضارة.

ويُعتبر معمل إسمنت كركوك الذي أنشئ عام 1980 من قبل شركة يابانية واحداً من أكبر معامل إنتاج الإسمنت في العراق والمنطقة الشمالية. وكان المعمل في وقت سابق من بين المعامل التي امتازت بجودة إنتاجها ولكنها كانت تمثل مصدراً لتلوث البيئة نتيجة لانبعاث الغازات السامة من أبراجها، مما تسبب في أمراض للسكان المحليين في أطراف كركوك والقرى المتاخمة.

shafaq.com

العراق ينتج أكثر من 10 ملايين طن من مادة الإسمنت خلال 2024

أعلنت الشركة العامة للإسمنت العراقية إجمالي إنتاجها المُتحقق من الإسمنت في العام الماضي 2024، مُحققاً نسبة تطور بلغت 7% مقارنةً بإنتاجها لعام 2023 .

وقال مدير عام الشركة عقيل عبد علي ردام إن معامل الشركة المُتوزعة في المحافظات الجنوبية والشمالية والوسطى حققت إنتاجاً إجمالياً لعام 2024 بلغ 10,214,815 طناً.

وأوضح أن الزيادة والتطور المُتحقق جاء نتيجة نجاح خطط الشركة في تحسين الإنتاجية وتعزيز كفاءة العمل لمواكبة الطلب المُتزايد على مُنتجات الإسمنت في السوق المحلية .

samanewsagency.com

سلطنة عُمان

ريسوت للإسمنت توقع مذكرة تعاون في مشروع تحويل النفايات إلى وقود بديل

في خطوة استراتيجية نحو الاستدامة، وقعت مجموعة ريسوت للإسمنت مع الشركة العُمانية القابضة لخدمات البيئة (بيئة) وشركة إم في دبليو ليشتنبرغ لإنتاج وقود مشتق من النفايات (RDF) وتطوير نموذج أعمال مستدام يقلل من النفايات ويعزز استخدام الطاقة البديلة في الصناعات الثقيلة.

وأكد الدكتور هلال سيف الضامري، الرئيس التنفيذي بالإجابة لمجموعة ريسوت للإسمنت، أن هذا التعاون يُعد علامة فارقة في تعزيز الاقتصاد الدائري ودعم أهداف عُمان لتحقيق الحياد الكربوني. تتماشى هذه المبادرة مع الجهود الوطنية لتقليل الاعتماد على الوقود الأحفوري وتعزيز الاستدامة البيئية في صناعة الإسمنت.

تمثل هذه الشراكة خطوة تحويلية في إدارة النفايات، مما يعزز التزام عُمان بالاستدامة ويضع سلطنة عُمان في موقع الريادة في تبني حلول مبتكرة وصديقة للبيئة من أجل مستقبل أكثر اخضراراً.

ليبيا

العمل على إعادة فتح مصنع مصراتة للإسمنت

عقدت اللجنة الفنية لمصنع إسمنت مصراتة اجتماعها الثامن لمتابعة أوضاع الإنتاج والدخول إلى السوق في أقرب الأجل. وبحسب بيان محافظة ليبيا أفريقيًا للاستثمار، يهدف مشروع مصنع إسمنت مصراتة إلى إنتاج 2 مليون طن سنوياً في المرحلة الأولى، على أن يرتفع الإنتاج إلى 4 مليون طن سنوياً في المرحلة الثانية، وذلك لتغطية احتياجات السوق المحلي وجزء من السوق الخارجي، وفقاً لدراسات الجدوى الاقتصادية التي أعدت للمشروع.

ويأتي هذا الاجتماع في إطار الجهود المستمرة لضمان نجاح هذا المشروع الاستراتيجي، والذي يُتوقع أن يسهم بشكل كبير في تعزيز القطاع الصناعي وتلبية الطلب المتزايد على الإسمنت.

وجدير بالذكر أن هذا المشروع متوقف منذ سنة 2012، حيث بلغت نسبة الإنجاز فيه نحو 32%، وقد تم مؤخراً التواصل مع الشركة الصينية المنفذة للمصنع (سينوما يوهان)، حيث قام وفد فني بزيارة مع لجنة المشروع ووضع الترتيبات اللازمة لانطلاق المشروع من جديد.



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جمهورية مصر العربية

بني سويف للإسمنت تتعاقد على إنشاء محطة طاقة شمسية بـ 298 مليون جنيه

تعاقدت شركة "مصر بني سويف للإسمنت" مع شركة IRSC بالتعاون مع شركتي JINKO و HUAWEI لإنشاء محطة طاقة شمسية بموقع الشركة في محافظة بني سويف.

ويهدف المشروع إلى تحقيق الاعتماد على مصادر طاقة نظيفة وتقليل التأثيرات البيئية للأنشطة الصناعية للشركة، كما يتماشى مع رؤيتها لدعم الاقتصاد الأخضر.

menafn.com

"العربية للإسمنت" توقع اتفاقاً طويل الأجل لشراء الكهرباء من محطة طاقة شمسية

وقعت شركة IRSC لحلول الطاقة المتجددة، اتفاقية شراء طاقة مع الشركة العربية للإسمنت لتوفير امدادات طويلة الأجل من الطاقة المتجددة لمدة 30 عاماً.

وتشمل الاتفاقية تطوير وتمويل وبناء وامتلاك وتشغيل المرحلة الثانية من محطة الطاقة الشمسية الخاصة بالعربية للإسمنت،

وهو ما يتيح إمدادات طاقة منخفضة التكلفة ومستدامة دون استثمارات رأسمالية مسبقة.

ومن المتوقع أن تنتج محطة الطاقة الشمسية نحو 32.5 جيجاوات ساعة سنوياً، فيما تصل القدرة الإجمالية إلى 17.6 ميغاواط. وأكدت العربية للإسمنت أن محطة الطاقة الشمسية سوف تعمل بصورة كبيرة على تقليل الأثر البيئي للشركة ويعزز استقلاليتها في مجال الطاقة.

وكانت العربية للإسمنت قد وقعت اتفاقية قرض بقيمة 25 مليون يورو مع البنك الأوروبي لإعادة الإعمار والتنمية، بهدف دعم جهودها لخفض الانبعاثات الكربونية لعملياتها التشغيلية ورفع كفاء استخدام الطاقة.

وسوف تستخدم قيمة القرض في زيادة قدرات العربية للإسمنت في استخدام الوقود البديل بالإضافة للاعتماد على تكنولوجيا الشغيل الآلي وتطوير أنظمة التحكم لرفع الكفاءة التشغيلية وتحسين مزيج المنتجات، ومن بين هذه المشروعات شراء وتركيب نظام متكامل لحقن الهيدروجين، وهو النظام الأول من نوعه في قطاع الإسمنت المحلي.

وأكدت أن تلك التكنولوجيا المتطورة سوف تعمل على تحسين كفاءة احتراق الوقود وتقليل الاعتماد على الوقود الأحفوري التقليدي بالإضافة إلى خفض انبعاثات ثاني أكسيد الكربون بحوالي 130 ألف طن سنوياً.

نشاطات عربية



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بالتزامن المؤتمر الدولي لإعادة الاعمار
التاريخ: 5 - 7 أغسطس / آب 2025

المكان: قاعات المركز الاردني للمعارض الدولية - مكة مول |
بوابة 3 - القاعات (A,B,C) | المملكة الأردنية الهاشمية

الجهة المنظمة: الروانغ العالمية لتنظيم المعارض
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المعرض الدولي للبناء - BUILDEX في دورته الثانية والعشرين

التاريخ: 27 - 31 مايو / أيار 2025

المكان: مدينة المعارض بدمشق | الجمهورية العربية السورية

للاستفسارات: جوال: +963 944730002



مؤتمر ومعرض صناعة الإسمنت والمجبول البيتوني في سورية 2025

التاريخ: 23 - 25 أكتوبر / تشرين الأول 2025

المكان: مدينة المعارض بدمشق | الجمهورية العربية السورية

الجهة المنظمة: مجموعة "سيم تك"

جوال - واتس اب: +963988413989 / +963969019984

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ورشة عمل «إدارة وتنفيذ مشروعات البناء الذكية باستخدام الذكاء الاصطناعي»

المكان: المنامة، مملكة البحرين

التاريخ: 14-17 أبريل / نيسان 2025

الجهة المنظمة: المنظمة العربية للتنمية الإدارية

لمزيد من المعلومات، يمكن الاتصال بالسيد المنسق - شريف اكرم

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الرقم الداخلي: 331



تدريبات منظمة من قبل معهد التنمية الإدارية

تدريبات منظمة من قبل الاتحاد العربي لتنمية الموارد البشرية:

10-04 مايو / أيار 2025

- الإدارة الاستراتيجية والتميز الإداري
- متطلبات تقييم الأصول وإعادة الهيكلة في ظل الخصخصة

11-17 مايو / أيار 2025

- إدارة الجودة الشاملة والتحسين المستمر (كايزن)

18-24 مايو / أيار 2025

- أساليب ترشيد الإنفاق في مجالي الشراء والتخزين
- تصميم مؤشرات قياس الأداء KPIs

25-31 مايو / أيار 2025

- تحليل البيانات الضخمة Big Data
- إدارة المخاطر التعاقدية وإعداد الهياكل القانونية لحل المنازعات
- استراتيجيات وسياسات الإحلال وتكوين الصف الثاني من القيادات الإدارية

المكان: القاهرة ، جمهورية مصر العربية بفندق إنتركونتيننتال سيتي ستارز - مدينة نصر

التاريخ: 25-31 مايو / أيار 2025

للحصول على كافة التفاصيل يرجى التواصل مع إدارة التدريب



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جوال: +201002958200

- العائد الاستثماري للتدريب: تقييم العملية التدريبية و قياس العائد من التدريب
- الأرشفة الإلكترونية - تأسيس وإدارة نظام الأرشيف الإلكتروني
- إدارة الصيانة المبرمجة والطائرة وإعداد التقارير الفنية
- دور العلاقات العامة والإعلام في بناء الإتصال الداخلي للمؤسسات
- إدارة عقود الفيدك الدولية FIDIC
- التقنيات المتقدمة في التشغيل والصيانة المخططة
- الأسس الحديثة لكتابة وصياغة العقود من خلال الأحكام القانونية والتجارية
- المنهج المتكامل لتخطيط العلاقات العامة وتحقيق التميز الإداري
- إعداد المواصفات والتقارير الفنية وإدارة عقود الصيانة والمشاريع
- الاستراتيجيات المتقدمة للمشتريات والمخازن وإدارة الخدمات اللوجستية
- متابعة أعمال الاجتماعات واللجان وإعداد التقارير والمراسلات وطرق العرض والتقديم



المكان: القاهرة ، جمهورية مصر العربية

التاريخ: 20-24 أبريل / نيسان 2025

لمزيد من المعلومات: التواصل مع مدير التدريب أ / ميرفت شاهين

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