

WORLD CEMENT[®]

August 2018

MAAG[®] GEAR
Leading the way
to improved
productivity

WE DISCOVER POTENTIAL

FLSMIDTH

401 CEMENT MILLS SOLD

A striking concept has prevailed in the market. LOESCHE vertical roller mills for cement grinding have set a new dimension. Unique technology at its best.

401 GOOD REASONS FOR LOESCHE.

LOESCHE 
INNOVATIVE ENGINEERING



www.loesche.com



03 Comment

05 News

REGIONAL REPORT: LATIN AMERICA

10 In Search of Some Good News

Jonathan Rowland, *World Cement* Editor, provides an overview of Latin America's cement industry.

17 Optimising Brazil's Petcoke Supply Chain

Glauco Roland discusses the necessary considerations when producing and exporting petcoke in Brazil.

24 A Cooperativa Project

Gregor Baumeister, BEUMER Group, discusses the implementation of a new packaging line in Mexico.

29 Learning to Love Waste

José Méndez, Geocycle Colombia, discusses a campaign to promote the collection and co-processing of waste.

FEEDING & DOSING

33 The Right Technology

Vladimír Sliva, Schenck Process Europe, discusses the installation of a new kiln bypass dust conveying and feeding system.

MOTORS

37 Masterful Motors

Mathis Menzel, Menzel Elektromotoren, discusses the importance of installing quality motors for lasting efficiency.

40 Innovative Efficiency

Peter Svartsjö, ABB, discusses the optimal use of motors.

CLINKER COOLING

45 A Tale of Two Heat Exchangers

Mogens Fons and Firat Aslan, Fons Technology International, explain how to boost pyroprocessing efficiency with a case study from the Nuh cement plant in Turkey.

DUST & EMISSIONS CONTROL

49 Defeat the Dust

John Rennockl, Parker Hannifin, discusses upgrade and improvement options for dust collectors.

53 The Art of Emissions Monitoring

Bill Freed and Marta Biarnes, E Instruments International, explain the criteria for selecting emissions monitoring and sampling instrumentation.

56 Hitting the Dust Reduction Target

Marco Bertorelle, Bedeschi, surveys options for dust reduction during the loading of clinker and cement.

60 Keeping Dust at Bay

Bertram Pischke, Herding Filtertechnik, discusses the increasing importance of dust collection and filtration systems.

MILLING

63 Ensuring Mill Efficiency

Osama Aly Ahmed discusses the common problems of mill grinding and grinding theory techniques.

GENERAL INTEREST

67 Added Value in Innovation

José Roda, Vidmar Group, discusses a new solution for the continuous manufacturing of corrugated/flat fibre cement sheets for the construction industry.

71 Eco-Cement the Belite Way

Abhishek Kumar Rai, Praseeja Shankaran, S.P. Pandey, and P.K. Tripathy, Dalmia Cement Research Centre, discuss the study of high belite cement production.

WORLD CEMENT PLANT TOUR

76 A Growing Industry

Susan Maingi, Bamburi Cement, discusses the growth of cement production in the East Africa, including the construction of a new cement grinding plant at the company's Nairobi plant.



THIS MONTH'S COVER

This month's cover shows the MAAG® GEAR Max Drive: another step towards very large mills. A dual drive system for maximum availability and performance, with design power of 11 600 kW, it drives the cement mill via a common girth gear and two drive units.

For more information: www.flsmidthmaaggear.com

Palladian Publications Ltd
15 South Street, Farnham, Surrey
GU9 7QU, ENGLAND
Tel +44 (0)1252 718999
Fax +44 (0)1252 718992

Email: mail@worldcement.com
Website: www.worldcement.com
Volume 49: Number 08
August 2018
ISSN 02636050

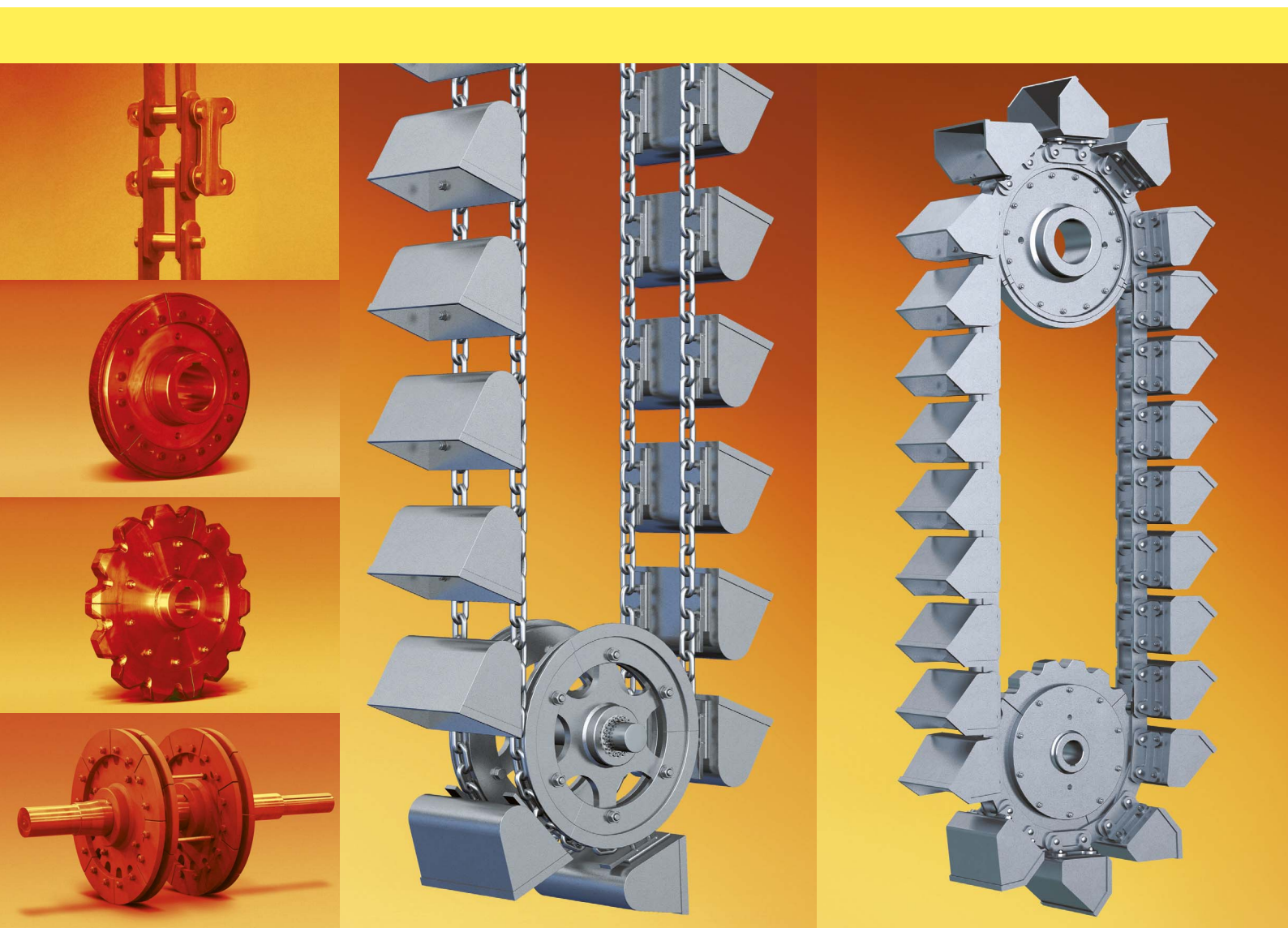




HEKO components for bucket elevators

- Round link chains
- Central chains
- Plate link chains
- Rollers and Sprockets
- Bearings
- Buckets

HEKO offers the whole range of chains and other wear parts for bucket elevators and chain conveyors. Proven in thousands of elevators and conveyors, worldwide.



HEKO Ketten GmbH

Eisenbahnstraße 2 | 58739 Wickede (Ruhr), Germany | Telephone +49(0)23 77-91 80-0 | Fax +49(0)23 77-10 28 | E-Mail: info@HEKO.com

www.heko.com



CONTACT DETAILS

Managing Editor: James Little

james.little@worldcement.com

Editor: Jonathan Rowland

jonathan.rowland@worldcement.com

Editorial Assistant: Robyn Wainwright

robyn.wainwright@worldcement.com

Contributing Editor: Paul Maxwell-Cook

Production: Hayley Hamilton-Stewart

hayley.stewart@worldcement.com

Advertisement Director: Rod Hardy

rod.hardy@worldcement.com

Advertisement Manager: Ian Lewis

ian.lewis@worldcement.com

Advertisement Executive: Paul Heyworth

paul.heyworth@worldcement.com

Website Manager: Tom Fullerton

tom.fullerton@worldcement.com

**Digital Editorial Assistant:
Nicholas Woodroof**

nicholas.woodroof@worldcement.com

Subscriptions: Laura White

laurawhite@worldcement.com

Reprints

reprints@worldcement.com

SUBSCRIPTIONS

Annual subscription (published monthly): £160 UK including postage/£175 (€245) overseas (postage airmail)/US\$280 USA/Canada (postage airmail). Two year subscription (published monthly): £256 UK including postage/£280 (€392) overseas (postage airmail)/US\$448 USA/Canada (postage airmail). Claims for non receipt of issues must be made within 4 months of publication of the issue or they will not be honoured without charge.

Applicable only to USA and Canada
WORLD CEMENT (ISSN No: 0263-6050, USPS No: 020-996) is published monthly by Palladian Publications, GBR and is distributed in the USA by Asendia USA, 17B S Middlesex Ave, Monroe NJ 08831.

Periodicals postage paid New Brunswick, NJ and additional mailing offices. POSTMASTER: send address changes to World Cement, 701C Ashland Ave, Folcroft PA 19032

Copyright© Palladian Publications Ltd 2018. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owner. All views expressed in this journal are those of the respective contributors and are not necessarily the opinions of the publisher, neither do the publishers endorse any of the claims made in the articles or the advertisements.

Uncaptioned images courtesy of www.shutterstock.com
Printed in the UK.



JONATHAN ROWLAND, EDITOR

Last month, plans to build a wooden 12 story high-rise in Portland, Oregon, were called off, after developers failed to find sufficient funding to pursue the project. Constructed from cross-laminated timber (CLT) – a building material made by gluing sheets of wood together – the tower was the first wooden high-rise to be approved by US planners and was expected to be the tallest such building in North America.

Despite the set back in Portland, wooden buildings are gaining in popularity. Indeed, a recent report from BMI Research that examined ongoing technology developments within the construction industry highlighted “growing interest in non-traditional building materials like timber, which offers significant advantages relative to steel and concrete and will inform its increasing adoption going forward.”

Wood is particularly highlighted because of its “sustainability benefits” as it comes from a “renewable source and reduces onsite waste in comparison to cement”. Wooden structures are also lighter “without sacrificing strength” and can “largely be on a modular basis, allowing the greater integration of robotics in cutting and assembling timber frames.”

These are claims that are often made by the timber industry itself. Indeed the timber industry’s PR machine is well oiled and has powerful supporters (often politicians who represent regions with a large timber industry). Meanwhile, its claim to sustainability captures the zeitgeist of the moment. Yet it is on this claim that timber is on shaky ground, as William Larson of the Pacific Northwest Building Resiliency Coalition pointed out in a recent opinion piece published on our website.

According to Larson, research has shown that only a small fraction of the CO₂ stored in a living tree is retained in long-lasting wood-based building products, such as CLT or dimensional lumber. And although cement production is a significant emitter of CO₂ globally, “research has shown that concrete reabsorbs much of the carbon previously emitted from cement production through a process called carbonation. Simply put, concrete is also a carbon sink.”

Sustainability also goes beyond counting the CO₂ emissions made in the production of various building materials. As Evan Reis, Executive Director of the US Resiliency Council, told *World Cement*: “builders and designers need to look at the full lifecycle of a building. That includes not only the initial time and cost of erecting the structure, but the potential for having to repair or replace it, if it is hit by a disaster, such as fire, wind, flood, or earthquake. In weighing the true sustainability of any material we need to consider its resilience to the natural environment in the long term.”

This is not to say that timber does not have a place within the building materials industry. Its efforts to position itself as a panacea to the construction industry’s sustainability challenges is however (at best) naïve and (at worst) deliberately disingenuous. Cement and concrete will remain integral to the built environment, while the cement and concrete industry is doing much good work to reduce its environmental impact. This is often overlooked and it is therefore heartening to see the establishment of the Global Cement and Concrete Association by the sector’s leading companies to champion the industry’s achievements at the international level.

The choice of building material determines the resiliency – and therefore the long-term sustainability – of a built environment. The cement and concrete industry has helped to build the modern world and is central to solving the challenges the world is facing today. That is a message that the industry would do well to help to spread.

THE FIRST VERTICAL IS HERE P&G



MODULAR GRINDING SYSTEMS



CEMENGAL
The alternative



India Ambuja Cement supports youth skills development

LafargeHolcim subsidiary in India, LafargeHolcim, has spearheaded skill development among rural youth in Rajasthan, delivering training to over 10 000 young people so far. The company's operates a Skill and Entrepreneurship Development Institute (SEDI) in Rajasthan as part of its CSR arm, Ambuja Cement Foundation.

"Skill development is a powerful tool to empower individuals and transform their lives, especially at a time when the country is leaving its mark in the intensified global competition," said Ambuja Cement's Managing Director and CEO, Ajay Kapur.

A graduate of SEDI, Taufique Ahmed, was recently recognised by Indian Prime Minister, Narendra Modi, on a visit to the state. Ahmed, who studied hospitality at SEDI, is now employed in Riyadh, Saudi Arabia.

Another SEDI student, Neetu, was also recently recognised by the Chief Minister of Rajasthan, Vasundhara

Raje, as Skill Ambassador 2018 for the state. Meanwhile, two other SEDI trainees – Shankar Godara from Nagaur and Pradeep Bagari from Chirawa – received the Skill Icon Award.

"The recognitions by the Hon. Prime Minister Narendra Modi, as well as Rajasthan's Hon. Chief Minister Vasundhara Raje, serve as a huge encouragement to us and stands a testament to the fact that our efforts are in the right direction," continued Ambuja's Kapur.

In total, 40 000 underprivileged youths in rural and semi-urban areas have been trained at 27 SEDI centres around India. SEDI centres offer short courses in various trades from 12 different sectors, as well as computer literacy programmes, and vocational skills training.

According to Indian government figures, the country will need about 109 million more skilled workers in 24 key sectors by 2022, while 12 million youth are likely to enter the labour force every year over the next two decades.

US Cement imports continue their positive run

US shipments of cement dropped back slightly in March, before recovering well in April, according to data from the US Geological Survey (USGS). Shipments – which include both domestically-sourced cement, as well as imports – were down 1.03% in March year on year, but rose 8.42% year on year in April.

Imports continued their unbroken run of monthly year-on-year rises that now goes back to May 2017. In March, imports rose 1.65%, while in April they were up 12.05%. This follows year-on-year increases of 3.20% and 16.09% in January and February, respectively.

Overall, imports to April 2018 are up 8.31% at 3.14 million t.

USGS data also tends to underestimate imports of

cement, as it does not include informal imports trucked in from Canada through the Seattle and Detroit customs districts or from Mexico through the El Paso district.

Shipments of domestic cement to April 2018 totalled 24.07 million t, a 1.89% increase on the first four months of 2017. Overall, January – April shipments stood at 27.22 million t, a 2.58% increase on the same period last year. Clinker production, meanwhile, stood at 21.7 million t between January and April, essentially unchanged year on year.

Texas, California, Florida, Georgia, and Ohio were the leading cement-consuming states in April, receiving about 44% of shipments. Top producers were Texas, California, Missouri, Florida, and Alabama.

Germany IKN completes new kiln line at Burglengenfeld plant

The first clinker was received on schedule at HeidelbergCement's Burglengenfeld cement works in Germany in April 2018, after two years of construction.

IKN was contracted for the engineering, supply, and installation of an upgraded 4000 tpd pyroprocessing line, from raw meal feeding to clinker discharge. The contract included integration engineering, supply, and installation of add-on components for the raw meal grinding plant. The upgraded kiln line features

state-of-the-art technology in order to reach the targeted production level and to comply with future emission limits. The new production line comprises a two-string, five-stage preheater tower with inline calciner and fire bed combustor for coarse refuse-derived fuels. IKN's most modern preheater and calciner design ensures minimum pressure drop at maximum performance and high efficiency. The kiln line has been designed for maximum use of a broad range of alternative fuels.



EVENTS

VDZ Congress

26 - 28 September 2018

Düsseldorf, Germany

www.vdz-online.de/en/latest-news/events

ILA General Assembly and Information Exchange Forum

10 - 12 October 2018

Cape Town, South Africa

www.internationallime.org

BULKEX18

17 - 18 October 2018

Nottingham, UK

www.bulkex.co.uk

IEEE East Coast Regional Technical Meeting

25 - 26 October 2018

Allentown, USA

www.ieeeeastcoast.com

SOLIDS Dortmund 2018

7 - 8 November 2018

Dortmund, Germany

www.easyfairs.com/solids-dortmund-2018/

AUCBM Arab International Cement Conference and Exhibition

20 - 22 November 2018

Amman, Jordan

www.aucbm.org

Cement Expo Vietnam

21 - 22 November 2018

Ho Chi Minh City, Vietnam

www.cementvietnam.com

Germany Beckum plant completes new SCR plant

LafargeHolcim subsidiary in Germany, Holcim (Deutschland) GmbH, has completed the construction of a new SCR plant at its Beckum cement plant. Trial operations will be completed by the end of the year with the aim of going into regular operation by the start of 2019.

The new €14.2 million facility will help to ensure that the Beckum plant complies with new stricter emissions limits that come into force next year. The official opening of the plant took place on 7 July and was attended by representatives of local government, management, the project team and local press.

SCR technology converts NO_x and ammonium hydroxide, which are contained in the cement plant's kiln exhaust gas, into nitrogen and water. The technology was supplied by Yara.

The new plant will ensure the emissions from the Beckum plant are significantly reduced in future, said Helmut Reiterer, Beckum Plant Manager, adding that the investment represented a clear commitment to the Beckum location.

US Lehigh Hanson invests in Mitchell cement plant

HeidelbergCement Group's US subsidiary, Lehigh Hanson, has announced modernisation and expansion plans for its Mitchell cement plant in Indiana. The company is to invest more than US\$600 million in the project, which will increase production capacity, as well as reducing energy usage and emissions per tonne of cement.

The company is working with the Indiana Department of Environmental Management (IDEM) to obtain the required air permits – a process that is expected to be complete in the summer of 2019. Construction is scheduled to begin in 2020 with completion of the new plant in 2022.

In recent years, Lehigh Hanson has worked with local officials to develop the infrastructure surrounding the plant, including a road connecting the plant to the state highway, alleviating truck movement through the town of Mitchell. Logistics will continue to be upgraded to accommodate the additional rail activity that the larger plant will require to ship cement to market.

Switzerland Ciments Vigier installs digitalisation solution

Swiss cement producer, Ciments Vigier, a part of the global building materials producer, Vicat Group, has installed ABB Ability Knowledge Manager at its plant in western Switzerland. ABB Ability Knowledge Manager allows a company to digitalise and integrate its process, quality, maintenance, and environmental data, supporting a plant's productivity decisions.

"The installation of ABB AbilityT Knowledge Manager and digitalisation of our plant data is really helping us to optimise our short-term production processes and long-term operations," said Kim Tran, Quality and Environment Performance Manager at Ciment Vigier SA.

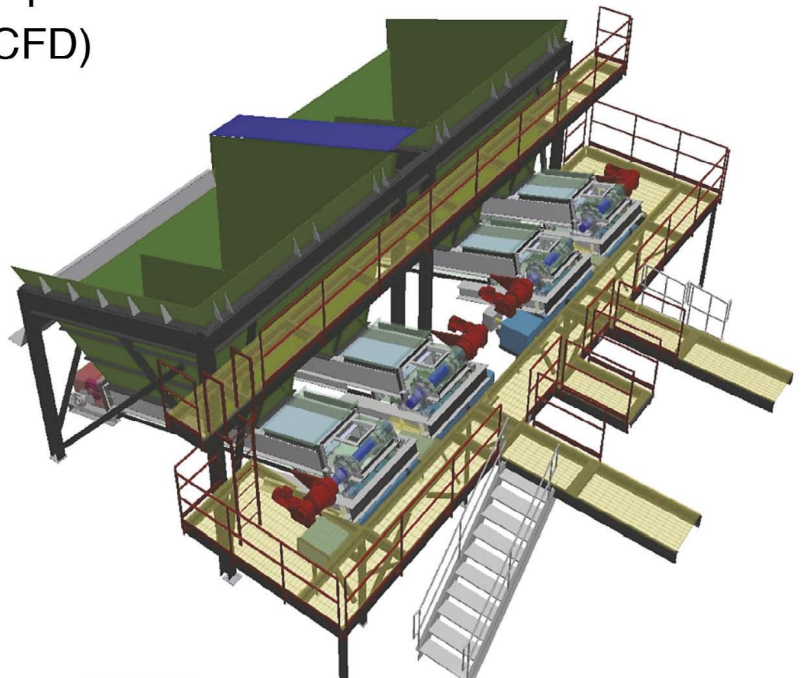
ABB Ability Knowledge Manager collects data from different sources in the plant, transforms it into meaningful key performance indicators, and makes this information available across the customer organisation to facilitate process improvements. The scope of supplier to Ciments Vigiers included the ABB Ability Knowledge Manager software, as well as related hardware, commissioning, and training.



Leadership In Engineering



- ✓ Cement Manufacturing Process Optimization
- ✓ Computational Fluid Dynamics (CFD)
- ✓ Plant Engineering
- ✓ Equipment Design And Supply
- ✓ Turnkey Systems



Contact us at
Sales@TurnellCorp.com
Office: 1-314-439-5035
St. Charles, MO, USA
www.TurnellCorp.com



IN BRIEF

Dalmia Bharat has launched Dalmia FBC Cement, a premium-quality super-fine blended cement that comes with “all the benefits of portland slag cement and portland pozzolana cement”. The new brand was launched by B.K. Singh, Senior Executive Director, Group Marketing and Communications, and Indrajit Chatterji, Executive Director Sales and Marketing (East).

Ramco Cement Ltd has ordered three vertical roller mills (VRM) from Loesche for its cement plants. The three mills will be used to grind clinker or slag at plants in the Indian states of West Bengal, Andhra Pradesh, and Odisha. Loesche will deliver one LM 41.2+2 CS mill to grind portland pozzolana cement (PPC) at Ramco's Kolaghat grinding plant in West Bengal, where the company is increasing capacity. The mill will grind clinker, slag, gypsum, and flyash at a capacity of 130 tph. The mill has two grinding rollers and two support rollers with a power range of 3000 kW.

The World Cement Association has further expanded its international network of members by welcoming the Colombian cement company Ultracem as a Corporate Member. The Association now has a membership made up of 69 members and representatives that cover 38 countries.

Scotland Tarmac plans Dunbar upgrade

Tarmac's Dunbar cement plant in Scotland has put plans to modernise the plant to the local council's planning department. Plans were lodged with the council earlier in the summer, according to local newspaper, the *East Lothian Courier*.

The proposals would see the plant construct a new cement grinding station, as well as storage silo and new rail loading facility.

“These plans will help us take the Dunbar cement operations onto another level in terms of efficiency and the use of the rail network across Scotland and England,” Plant Manager, Oliver Curtin, said

Scotland's only cement plant, Dunbar employs over 140 people and contributes £8 million to the local economy each year, according to the plant's website.

Hungary EPC kiln line upgrade project for Duna Drava Cement in Vác

The 2400 tpd Duna Drava Cement clinker line in Vác has been successfully re-commissioned and put into production in April 2018. In less than two years, IKN completed the task of delivering the project on EPC basis.

The main target of the project was to adapt the pyroprocessing line for producing clinker using up to 100% RDF in the calciner. The two lower cyclone stages were replaced, a complete new preheater tower with the inline calciner was erected, and a new bypass system, as well as a new static inlet in the clinker cooler, were installed.

The upgraded kiln line combines the latest industry practices with the most modern and up-to-date process technology.

Qatar PAC signed on fifth production line at Umm Bab

On 27 June 2018, Qatar National Cement Co. and Fives FCB signed the provisional acceptance certificate finalising the implementation of the fifth production line at the Umm Bab plant. The new line has a clinker production capacity of 5000 tpd.

The contract for the new line covered the complete equipment supply from raw material preparation to cement dispatch. It included Fives process equipment for the 440 tph raw meal grinding plant, the 2 x 115 tph cement grinding plant, and the burning line:

- One 6600 kW FCB B-mill for raw materials grinding with its associated FCB TSV™ 7500 Classifier.
- One five-stage single string FCB Preheater and its FCB Zero-NOx precalciner.
- One three-pier 76 m long FCB Kiln.
- Two Fives TGT® process filters.
- Two 4200 kW FCB B mills for cement grinding with their associated FCB TSV® 4000 classifiers.

In addition to QNCC's previous lines no. 2, 3 and 4, which were also implemented by Fives over the past 20 years, this fifth production line raises the total capacity of the Umm Bab plant to 16 000 tpd of clinker.



REYMA

reOTIX

CUSTOM MADE SOLUTIONS

GUNTIX HP low cement content gunning materials

ZSI RANGE high mechanical and alkali attack resistant concretes

PROTIX antiwearing concretes for coolers, ducts and mills

SOL-GEL SYSTEM cement for quick repairs and startups


Special solutions for the burner lance

OWN TECHNOLOGY



www.reyma.com

SPAIN MEXICO COLOMBIA UK IRELAND PORTUGAL EGYPT BRAZIL ARGENTINA ALGERIA USA

A nighttime photograph of a city skyline, likely New York City, featuring several illuminated skyscrapers and a prominent, brightly lit, modern building with a curved facade in the foreground. The scene is reflected in the water in the foreground, and a construction crane is visible on the left side.

Jonathan Rowland,
World Cement Editor,
provides an overview
of the major markets
and major players in
Latin America's cement
industry.

IN SEARCH OF SOME GOOD NEWS



Introduction

The Latin American cement market has seen troubled times in recent years. Its largest market, Brazil, has lurched from one political crisis to another, dragging its economy into the doldrums. Its construction sector has been particularly scandal-plagued – with disastrous consequences for its cement industry.

It is also true, as Raluca Cercel, CW Associate at CW Group pointed out in a recent conversation with *World Cement*, that Latin America is not a homogenous market but a number of smaller local markets each

driven by their own separate conditions: “Brazil is doing something; Mexico is doing something; Chile is doing something else. It is really a conflicting market in that sense.”

The major players

Taking a birds-eye view of the sector, the Latin American market is dominated by three majors: Swiss multinational LafargeHolcom, as well as locally-based CEMEX (Mexico) and Cementos Argos (Colombia). Adding in the Brazilian giants, Votorantim and

Intercement, these account for over half of a total installed capacity in the region of around 250 million tpy.

Of these, LafargeHolcim is the largest player, operating 30 integrated clinker production lines plus grinding plants in the region. These have a total capacity of 39.3 million t and 2017 sales volumes of around 24.9 million t.

Votorantim follows closely behind LafargeHolcim with the same number of plants and capacity of 36 million tpy (out of a total global capacity of 52.8 million tpy). This is heavily weighted towards its Brazilian home market, however, where the company has capacity of 34.3 million tpy across 27 plants.

In the wider Latin American market, Votorantim operates just three plants, in Bolivia and Uruguay, with capacity of 1.7 million tpy. The company does not release sales volume data. In addition, the company owns a 49% stake in Cementos Avellanada in Argentina, which has a total installed capacity of 3 million tpy.

Brazil is also home to Intercement, which operates a combined 21 integrated clinker production lines plus grinding plants across Brazil, Argentina, and Paraguay. These plants have a total combined capacity of 28.2 million t with 2017 sales volumes of 14.7 million t.

Mexico-based CEMEX and Colombia-based Cementos Argos each operate 15 integrated clinker production lines plus grinding plants. The Colombian company has installed capacity of 13.4 million t and 2017 sales of 10.4 million t; data for CEMEX was not available.

This tightly held market structure does not allow for much margin for error by the companies involved: “a bad move in one market – for example by lowering the price and ruining everyone’s market share – and the other players will retaliate in another market,” explained CW Group’s Cercl. “You don’t have that many small companies that can actually make a difference in terms of market share and pricing.”

The markets

Brazil

Brazil is by far the biggest market for cement in Latin America: it is also the region’s biggest headache. Despite some positivity heading into this year, demand appears to have declined by around 5% to May. “With Brazil, it always seems like there is a glimmer of hope, and then chaos is waiting around the corner,” said Cercl. “It’s something we have observed not only now but for several years.”

A sure sign that domestic demand has not been performing as well as cement companies would want has been a recent upswing in cement exports. Although not huge amounts – certainly not on the scale of Mexico, for example – the fact that exports are ticking up “points to the fact that cement manufacturers are trying to get rid of production by any means possible,” noted Cercl.

The most recent “chaos around the corner” came in the guise of a truck drivers’ strike, which caused cement companies to miss deliveries and highlights

one of Brazil’s chronic weaknesses: its transport infrastructure.

It is in this weakness however – as well as the fragmented regional nature of Brazil’s cement market – that there may be opportunity to succeed, explained Cercl. “If you invest in a sub-region that is not very well catered for [in terms of cement production] and that other cement manufacturers from other regions cannot deliver to, and if you can leverage those conditions in a region where demand is increasing, you could be successful in Brazil.”

There might also be an end in site to the cycle of falling demand – although not until 2020 at the earliest. “Best case scenario, sometime in 2020 we are going to see a recovery in the construction market and the construction companies that have been involved in the huge scandals over the last two years going to back to work,” said Cercl.

Mexico

Moving to the second largest cement market in Latin America, political change is again likely to play a deciding role in how the cement market fairs. The country has recently been convulsed by the election of populist Andrés Manuel López Obrador (AMLO) to the presidency.

In a research note written before the election, BMI Research noted that AMLO’s election would lead to an increased likelihood of a boost to government spending on infrastructure and housing construction.

“AMLO’s programme contains a number of measures that would direct more funds towards public construction investment,” the research firm said, adding that an “improving fiscal situation (supported by rising oil revenues) and the Peña Nieto government’s successful austerity measure will provide more room for public infrastructure investment from 2019.”

“He’s a populist with a populist agenda,” said Cercl, who notes a risk to business in AMLO’s presidency. “I think he will increase corporate taxation – and that will definitely effect the profits of CEMEX, Grupo Cementos Chihuahua (GCC), etc.”

This could lead to a rise in cement prices, as the producers aim to pass on the impact of any tax increase to consumers. But this is by means a simple exercise in Mexico: in spring, producers tried to increase prices but were forced to back down after any outcry from both the government and construction companies.

The less-friendly business environment – coupled with anaemic demand growth – could also push Mexican companies into the US market. CEMEX and GCC are already present there: CEMEX operates 11 cement plants and more than 50 distribution terminals in the US, while GCC has four cement plants and 22 cement distribution centres. More may follow as companies become more “aggressive in diversifying their business into the US,” said Cercl.

Making the most every step along the way

CEMENT WORLD

Asset evaluation

Engineering and design

Construction and erection

Modular grinding plants

Project management

Safety and environmental audit

Quality inspection teams

Training programs

Seaborne logistics expertise

Export design

Import design

INNOVATIVE LOW CAPEX SOLUTIONS



www.globbulk.com

On the project side, CEMEX recently grabbed headlines with the opening of the Centro de Control Cemento (C3): a monitoring and remote control centre from which the company can operate its cement plants, kilns, and grinding mills across Mexico. C3 also monitors a cement plant in Colombia, as well as one in the US.

The system's uninterrupted monitoring provides information about each stage of the production process, as well as the performance of equipment installed in the cement plants, allowing C3 operators to not only monitor but also take immediate corrective actions in coordination with the company's local operations staff.

Elsewhere, Cementos Fortaleza – a subsidiary of Elementia, which is partly owned by Mexico's richest man, billionaire Carlos Slim – signed the last

acceptance certificate on its new clinker production line at the Tula cement plant in April of this year. The new line has a capacity of 3300 tpd (1.5 million tpy of cement), raising the company's cement capacity in Mexico to 3.5 million tpy. The new line was supplied by Fives Group on an EPC basis.

The contract for new line was signed in May 2015 with clinker production beginning in July 2017. The plant features three identical FCB Horomill 3800 mills, one for raw meal grinding and two for cement grinding.

The 300 tph raw meal section is completed by an FCB TSV Classifier 6500 BF, as well as a 27 500 t prehomogenisation storage, additives storage, and 7500 t raw meal blending silo.

The two FCB Horomill 3800 for cement grinding have a capacity of 125 tph each. The cement grinding operation is completed by two FCB TSV Classifiers 4500 HF, two Fives TGT filters with a capacity of 130 400 Nm³/hour at 80°C, and a Pillard HeatGen System hot gas generator system.

Petcoke grinding is handled by an FCB B-mill with FCB TSV Classifier.

The pyroprocessing line includes an FCB Preheater, FCB Zero-NOx Preca with Pillard PRECAFLAM burner, 4.4 m dia. x 66 m FCB rotary kiln, Fives NEO Filter, and Pillard NOVAFLAM burner. A 79.5 m² clinker grate cooler completes the line.

Independent Mexican cement producer, Cooperativa La Cruz Azul, is also expanding its cement production at its Lagunas and Hidalgo plants. In both locations, the company is establishing a new clinker production line with both Loesche and Fives Group contracted to supply mills to the two sites.

Loesche will supply what will be two of the largest coal/petcoke grinding mills in the Mexican cement industry to the Hidalgo and Lagunas plants. The two mills are based on Loesche's four-roller design with modular construction and throughput of 65 tph.

In addition, Loesche will supply the complete plant equipment, including process gas filters, mill fans, inertisation units, explosion protection valves, kiln gas cyclone separators, and feed screw and drag chain conveyors, as well as the complete electrotechnical equipment. Commissioning on the two mills is planned to take place in mid-2019.

Meanwhile, Fives Group has been awarded two contracts for the engineering, supply, construction, and commissioning of the raw meal grinding plants at Lagunas and Hidalgo. The grinding plants will be supplied on a turnkey basis and each include one FCB Horomill and one FCB Classifier.

The Hidalgo raw meal grinding plant will have capacity of 280 tph, while the Lagunas plant will have capacity of 300 tph.

Argentina

Look beyond the two big markets and there is a more positive story emerging to the south in

Bolivia

FLSmidth has received an order from Cooperativa Boliviana de Cemento, Industrias y Servicios (COBOCE Ltda) for a new 130 tph OK 43-4 vertical roller mill (VRM). The VRM will be installed at the COBOCE cement plant in Irpa Irpa in central Bolivia.

The order includes engineering, procurement, and supply of a complete range of equipment from mill feeding bins, grinding, and cement transport. FLSmidth MAAG Gear will supply the planetary gear units, FLSmidth Airtech will supply the fabric filters, and FLSmidth Automation will supply plant automation.

Honduras

Argos Cement is expanding its cement production capacity in Honduras with the construction of a new milling plant in Choloma, in the north of the Honduras. The new plant will represent an investment of around US\$20 million and expand Argos' Honduran cement capacity by around 30% (0.44 million tpy).

Cemengal was awarded the contract to supply two Plug&Grind XL units for the Choloma plant. The two 0.22 million tpy units each consist of a 3.0 dia. x 9.5 m ball mill with 1100 kW power rating, latest-generation classifier, and a 50 000 m³/hour bag filter. Supply also includes new cement storage silos for finished product, as well as six-spout 2000 bags/hour Roto packer and palletiser from Haver & Boecker.

Argos already operates an integrated cement plant in Comayagua and a grinding plant in San Lorenzo.

In addition, IBAU Hamburg is delivering for the Honduras Terminal a pneumatic conveying system, including an IBAU Pump, to feed several cement storage silos.

Argentina, one of the few markets that CW Group is bullish on in the region. The cement market there is growing, despite some issues around cost of production – mostly due to fuel costs. This has seen prices start to creep up, potentially creating an opening for new market participants.

“It’s only going to be a matter of time before a manufacturer – be it from Asia or elsewhere in Latin America – is going to consider Argentina a great market to enter through a price shock,” according to CW Group’s Cercel.

There is also currently some major investment into the Argentinian cement industry from existing manufacturers, with both Cementos Avellaneda (a joint venture between Votorantim and Spanish multinational, Cementos Molins) and LafargeHolcim recently announcing large projects in the country.

Cementos Avellaneda is to increase its production capacity by almost 1 million tpy. It has already completed a 0.2 million tpy capacity expansion project at the Olavarría plant, bringing total plant capacity to 2.7 million tpy. Start-up occurred on schedule in 1Q18.

A second, larger expansion project is underway at Cementos Avellaneda’s San Luis plant. Expected to complete in 2019, the project will boost capacity by 0.7 million tpy to a total of 3.5 million tpy. Across the two projects, the company is investing US\$227.2 million.

Meanwhile, Holcim Argentina – LafargeHolcim’s subsidiary in Argentina – is revamping its Malagueño clinker production line. The project involves recommissioning a mothballed 1650 tpd production line that was originally supplied by KHD Humboldt Wedag in the 1980s. LafargeHolcim currently operates 4.7 million tpy of cement grinding capacity in the country.

The cement company has returned to the original equipment supplier for the recommissioning work. KHD Humboldt Wedag is supplying the engineering and mechanical equipment for raw material preparation and clinker production, as well as the electrical equipment. The core equipment includes the following:

- Tertiary raw material crusher with a capacity of 250 tph.
- Ball mill drive for existing ball mill, plus new feeding equipment for raw meal preparation.
- High-efficiency separator for raw material grinding plant.
- Kiln feed dosing system.
- Four-stage preheater.
- 4.4 m dia. x 64 m rotary kiln, plus drive system.
- Revamping of existing clinker cooler with fourth-generation walking floor grate.
- Main bag house for kiln/mill and clinker cooler.
- Main process fans of latest KHD high efficiency design.

HAVER & BOECKER



ROTO-LOCK™



**Perfect dosing and
low maintenance**

info@haverusa.com | www.haverusa.com

PROCESSING STORAGE MIXING FILLING PACKING PALLETIZING LOADING AUTOMATION



Commissioning of the modernised production line is planned for mid-2019.

Colombia

Another market with good potential for future growth – as yet unfulfilled – is Colombia. It has not however been an easy market for cement producers recently: the three major players (LafargeHolcim, CEMEX, and Cementos Argos, accounting for 96% of Colombia's cement market) were all fined a combined total of US\$66 million by the competition authority for price fixing. The companies denied the regulators findings.

According to BMI Research, Colombia's construction sector contracted in 1H18 and expects only marginal growth over the full year. The research company is more positive from 2019, expecting growth of 4.8% in 2019, 6.5% in 2020, and an average of 4.3% annually thereafter to 2027.

Much of this potential for growth lies in planned infrastructure development – including the massive 4G road infrastructure programme. Yet infrastructure development has been beset by delays and much is also yet to be forthcoming. Indeed, even Colombia's home-grown cement major, Cementos Argos, no longer views the country as its main market, preferring to look north to the US.

"They are buying a lot – terminals and grinding plants. And they've been opening offices as well. They are really making a strategic point to being in the US when demand is growing," said Cercel, who views it as a "great strategic move on their side."

The Colombian cement market also has a number of large-scale expansion projects that were aiming to come online this year. Incumbent, CEMEX Colombia has invested around US\$420 million in 1.3 million tpy capacity plant in Maceo, Antioquia – although the project has been beset by various legal and regulatory challenges that mean the plant is not yet operational.

In an interview in June with *La Republica* newspaper, the President of CEMEX Colombia, Ricardo Naya, was vague about a potential start up date, saying only that the company hoped to have the plant up and running by the end of the year.

Meanwhile, Gebr. Pfeiffer is in the process of supplying a ready2grind modular grinding plant to LafargeHolcim Colombia, which will comprise a clinker feed modular hopper system, as well as ready2grind milling circuit, product storage, and a packing plant from Claudius Peters. The grinding circuit includes a Gebr. Pfeiffer MVR 2500 C-4 with feed system, filter, fan, auxiliary equipment, and the complete electrical control system.

There are also two newcomers into the market: Ecocementos and Medcem Colombia. Ecocementos – a joint venture between Cementos Molins and

Grupo Corona – has constructed a 1.35 million tpy plant in Sonson. OHL Industrial was contracted to construct the plant with FLSmidth supplying engineering, procurement, and equipment.

Equipment supplied included an ATOX 37.5 vertical mill for raw materials grinding, an ATOX 17.5 mill for coal grinding, ROTAX-2 rotary kiln with low NOX ILC calciner, FLSmidth Cross-Bar cooler, JETFLEX burner, and OK 39-4 vertical mill for cement grinding.

FLSmidth also supplied equipment such as planetary gear units from FLSmidth MAAG Gear, fabric filters from FLSmidth Airtech, a packing plant from FLSmidth Ventomatic, control system and plant automation from FLSmidth Automation, and weighing and metering systems from FLSmidth Pfister. The plant is expected to be operational in 2H19.

Perhaps the greatest threat to current players in the Colombian cement industry would be the construction of a 3 million tpy plant by Turkish cement company, Medcem Global. Announced in 2015, the plant could take six years to complete, the company said at the time.

Conclusion: the US factor

A final caveat to the Latin American cement story comes from the north. US cement demand is currently growing and – with many Latin American cement companies active in the US – it offers potential for growth that many of the more anemic markets in Latin America do not.

Yet there is a twist: the Trump Administration's trade policy looks to make life much harder for importers of goods from Canada and Mexico. Although not directly targeting cement, the cement industry is likely to be caught up in this. Votorantim, for example, imports cement into the US from its St Marys Cement plant in Ontario, Canada. Any redrawing or collapse of NAFTA will surely hit this trade.

The exact scale of the challenge is difficult to chart. The USGS records some imports: its data shows imports totalling 3.14 million t over the year to April out of total cement shipments of 27.22 million t. But there are holes in the USGS data: it does not include informal cement imports via truck through Seattle and Detroit from Canada and through El Paso from Mexico. Imports are therefore likely to be higher than the USGS data suggests.

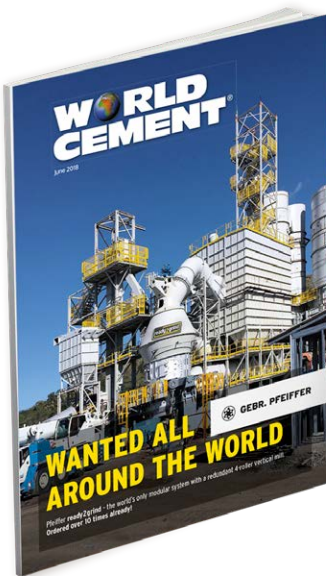
Disruption to this trade is simply another complication for an industry that has not been without its political headaches in recent years. And though there remains much potential in the region, the devil is always in the delivery. 🌐

Acknowledgement

The author wishes to thank Raluca Cercel, CW Associate at CW Group, for sharing her insight into the Latin American cement industry.

THAT WAS A SAMPLE OF **WORLD CEMENT**[®] AUGUST ISSUE

NEW



DON'T WANT TO MISS OUT?

You will need to be a subscriber to read the full edition. Please log in to **www.worldcement.com** or alternatively click [here](#) to subscribe.

For more information about the comprehensive **World Cement** subscription package, please contact us:

www.worldcement.com

E: subscriptions@worldcement.com

T: +44 (0)1252 718999