BINA Plus

CORPORATE MAGAZINE of LAFARGE IRAQ
No: 8 - September 2018

Lafarge to supply concrete for the new Central Bank of Iraq

Karbala Cement Plant: A reliable provider in the South

Lafarge offers Automatized Dispatch to its customers

LAFARGE
Building better cities™

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WWW.ZAHA-HADID.COM

BINAPlus

This is a complimentary quarterly magazine published by
Lafarge Iraq for its employees and external readers

CONTENTS

Dear Colleagues,
Dear Readers,

This year marks the 10th anniversary of Lafarge's presence in Iraq; in 2008 Lafarge acquired Orascom's cement assets and Iraq joined the countries where Lafarge Group was present.

The past 10 years have been a unique experience for the Lafarge Group (latterly the LafargeHolcim group following our merger in 2014), which in many ways would not have been possible in any other country or market.

Building on its strong confidence on the potential of the country in terms of construction and development, Lafarge Iraq successfully managed to sustain and develop its businesses in the country in the past 10 years, thanks to dedication and continuous efforts of our local teams and our Group's worldwide working principles.

Lafarge Iraq has recorded some remarkable business achievements in the past 10 years. The main ones include:

- The Bazian Cement Plant today is the best performing plant in Iraq in terms of production and dispatch performance as well as cost management.
- The Karbala Cement Plant completed a comprehensive and long rehabilitation process with great achievement despite huge difficulties. Reaching now 2.5 MTon cement production capacity per year, the plant has become the most reliable cement provider in its region.
- In cement sales, Lafarge Iraq built a unique and strong position in the market thanks to its brand, its products, and its proximity to the customers and its services.
- Our concrete operations are back to profitability, having a good presence in the main cities of the country and being very much involved in the large-scale infrastructure and housing projects in Iraq.

All these business achievements were made while respecting our Group core values and working principles:

1. Health & Safety: Although the journey towards 0 Harm to People is still long, we pride ourselves for the progress made so far and have become a leading example in Iraq in terms of health & safety.

2. People development: Our company is the leading example in Iraq in terms of developing local people's professional competencies, reinforcing gender diversity, discovering and retaining new talents and young potentials, developing special internship programs with the local universities as well as internal training programs with international aspects.

3. Customer centricity: Thanks to the 'Customer First' program, which includes dozens of projects and which mobilizes the entire organization, Lafarge Iraq developed unique route to market approaches as well as differentiating solutions and services for its customers and end-users. Large projects, Binastore, 4545 App, delivery services, first cement palletizer in the country, etc. are just some of the key achievements which made LH MEA region awarding 'Customer First' the best commercial transformation project in the region.

4. Integrity: Despite a very challenging environment, Lafarge Iraq took decisive steps to make its business practices fully compliant with the Group's Code of Business Conduct and aligned with the international and local law including competition and anti-bribery regulations.

5. Sustainable development: Lafarge Iraq is keen to provide solutions towards meeting local social, environmental and stakeholder challenges, with one clear goal: to create shared value with society. Lafarge Iraq has been supporting its surrounding communities in all manners including creating job opportunities, being part of education-projects, increasing health & safety awareness, meeting all environmental requirements, and being an active part of its local communities.

I am very pleased to be a part of such a strong organization and the team at Lafarge Iraq and to share in the pride of supporting the further development of this country.

Let's make the next 10 years an even better decade than the previous one!

Sincerely yours,
Khaled El Dokani
Country CEO

Lafarge Iraq's

I Choose Safety

Campaign Calls To Stand For

Safety By Choice Not By Chance

Lafarge Iraq **Communications** and **Health & Safety** Teams launched a new health & safety campaign that is titled **I CHOOSE SAFETY**.
The main idea of the campaign is to focus on small-simple safety issues which might occur anytime anywhere.

Why "I Choose Safety"?

Because we all know and believe that safety should be by choice not by chance. We face many serious incidents and near misses in our lives which do not end up with serious injuries or even fatality just by chance. This is neither acceptable nor sustainable. Safety should be by choice and not by chance!

I choose SAFETY

Why small and simple safety issues are so important?

Because all serious accidents leading to heavy injuries or fatality start with neglecting very simple, small issues that occur anytime anywhere in our daily lives.
The aim of the campaign **"I CHOOSE SAFETY"** is to create a strong sense of urgency starting with daily small things which will strengthen our ability to react on any unsafe situation right on the spot.

Six topics along the year

The campaign is based on six specific topics each of which are being displayed two months.
The first three topics of the campaign implemented so far were " I Watch My Step", "I Keep Myself Away from the Line of the Fire" and "I Use the Right Tool for the Right Work".

Let's do not leave the safety to chance!
The safety of yours, your family, your friends, and your colleagues..
Don't leave safety in the hands of chance!
LET'S CHOOSE SAFETY!!!

Source of images and information : www.zaha-hadid.com

Central Bank of Iraq (CBI)

Lafarge Iraq signs contract to supply concrete for the construction of the new Central Bank of Iraq, which was designed by the late Architect Zaha Hadid

LAFARGE IRAQ SIGNS CONTRACT TO SUPPLY CONCRETE FOR THE CONSTRUCTION OF THE NEW CENTRAL BANK OF IRAQ

Lafarge Iraq is delighted to be working on the new Central Bank of Iraq (CBI), which is one of the final designs gifted from the world renowned Iraqi architect, the late Zaha Hadid.

Zaha Hadid Architects' website describes the project as: "Rising from the sloping banks of the Tigris river in Baghdad, the design of the new headquarters of the Central Bank of Iraq conveys the core values at the heart of the institution: Solidity, Stability and Sustainability." The building will be 172m high and will stand on a 200m by 100m podium.

Construction on the new CBI is already underway and Lafarge Iraq will be the exclusive concrete supply partner for project. The main contractor for the project is Azerbaijan-based 'DAAX Construction' who have worked on other challenging designs by Zaha Hadid including the Heydar Aliyev Cultural Center in Baku.

Khaled El Dokani, Country CEO of Lafarge Iraq, noted the importance of the project for Iraq and that it was a good example of large-scale government projects. El Dokani added "Lafarge Iraq proud to be part of such a significant project; I congratulate our Lafarge Iraq Concrete team for this great step forward and getting involved in the construction of this iconic design by Zaha Hadid. I want to thank them for the huge effort and persistence shown to overcome the challenges and obstacles so that Lafarge Iraq would be part of this project."

Lafarge Iraq is becoming the preferred partner for important large-scale infrastructure projects; "the new CBI is just one of the large-scale and important projects that Lafarge Iraq is involved in; we are also the exclusive concrete partner for the Karbala Refinery project, Khabat power plant in Erbil, and several building and infrastructure projects throughout the country," said Ali Said, General Manager of Lafarge Concrete in Iraq. He added that the CBI is a 4 year construction project for which Lafarge will be providing approx.150,000m3 of specialized concrete types.

Lafarge Iraq's Senior Construction Expert, Sohaib Salamah, said that "Iraqi Central Bank project reflects not only modern-visionary architecture but also a very high level concrete engineering thanks to Lafarge's worldwide know how and innovative, ultra-high performance concrete products."

In addition to the different high performance concrete types (C50-80) to be supplied by Lafarge Iraq, LafargeHolcim's very special product Ductal® is also considered to be used in the construction of this iconic architectural design by Zaha Hadid. Ductal® is a high-tech construction material (Ultra-High Performance Concrete - UHPC) with the superior qualities of resistance to compression, ductility, longevity, explosive resistant, eco-efficiency, insulation and aesthetics.

Source of the photos and the architectural content: www.zaha-hadid.com

KARBALA CEMENT PLANT

EMERGES AS A RELIABLE CEMENT PROVIDER IN SOUTH

Dominuque Brugier – Cement GM Industrial – Lafarge Iraq

“7000 TON CLINKER
per day was just a dream
before the rehabilitation and
now it’s a **REALITY”**

Dominuque Brugier, Cement GM Industrial tells us how Karbala's Cement Plant has made a breakthrough following six years of rehabilitation program.

How do you evaluate the status of the Karbala Plant compared to recent years?

The rehabilitation of the Karbala Cement Plant began in 2010 and the first phase was completed at the end of 2016 with the two kilns in operation, the rest were completed during 2017.
Before 2017, the plant had never produced more than 2000 tons of Clinker a day. From the start of 2017 it was possible to produce about 7000 tons of cement a day. I can tell you that in the minds of the staff it was like a dream. They had trouble believing that this first success at the beginning of 2017 could be repeated every day and even at a higher level.

“The mindset of the people at the plant is now totally different, the barriers have been removed and they see that everything is now possible”

The biggest challenge that we had was to convince our own employees that producing 7000 tons per day of cement was possible. For the first time in early January 2018 we produced 7000 tons of clinker per day, which is another achievement. It is much easier now, the whole team is convinced that the dream became reality and that all the remaining challenges can be solved by working together.
The mindset is totally different now, the mental barriers are removed and now everything is possible. When we spoke two months ago about a target for mid 2018 of 3700 t/d for each kiln, it was accepted without difficulty and the workforce believes, so it will happen.

What do you think the main drivers were in the progress?

The main vectors of the success of this rehabilitation are of different nature:

- First, thanks to Lafarge's experience in this field; we had excellent expertise to assess of the state of the equipment and of the human resources on site which allowed us to understand the plant’s potential.
- Second, a detailed action plan was developed and put in place. Each team had a dedicated and clear role, and these teams were fully engaged and coordinated, but with strong interaction between each entity.
- Third and finally the most important aspect was the desire of the local teams to see the Karbala plant become a different plant than it was. When the people understood that it was possible to perform and to produce quality products in large quantities in a sustainable way, we immediately progressed faster.

What were and are the challenges you need to deal with?

This project was very difficult. The most significant was the arrival in 2014 of ISIS near the site of the plant. For obvious security reasons we evacuated all our staff and all suppliers in August 2014 and had to wait seven months before it was safe to restart..
The position of the factory, in the middle of the desert, made accessing another challenge that increased the difficulties of the rehabilitation project.
The local staff had a very low level of competence, but through training and reorganization we were able to help them progress significantly. It will be one of the future challenges, to continue to develop and train them in order to gradually replace expatriates and to have a completely autonomous factory.

How do you see the future?

I see the future in a very positive way. The performance after the rehabilitation is above the nominal performance of the plant, but everything shows us that we still have the potential to go higher.
The most important thing is that the team in place has progressed enormously, it is very motivated and will be able to sustain higher performances than those of today.

Lafarge Iraq's Bazian Cement Plant is unique in Iraq; offering **Automatized Dispatch to its Customers**

Loading cement in Lafarge Iraq's Bazian Cement Plant is now much easier, faster and safer thanks to the 'Dispatch Automatization Project' completed recently. Drivers no longer need to leave their trucks whilst the loading and control procedures are being conducted. The plant is the first and in Iraq to have the capacity to load cement bags with pallets, clean and nicely packed. That means our customers now enjoy shorter loading and off-loading time, clean and zero burst bags and benefit from extra storage capacity.

Dispatch is the process that welcomes our customers to the cement plant. It is the spot where our customers get their first impression about our plant and our company. Therefore we have put dispatch at the heart of our "Customer First" Program that we started to implement 2 years ago. The Dispatch Transformation Project at Bazian Cement Plant is designed to offer a great "customer experience" to our customers. The purpose of the project is to ensure that we're offering safe, reliable, and value added services to our customers.

It is not about automatization, it is about creating a new culture in the organization that centers on customers' needs

There is a long and thoughtful process behind the project that includes a comprehensive study of our customers' expectations, detailed evaluation of our existing capabilities, planning the necessary actions and resources, which was only possible due to great teamwork. The target was not just about automatization but also to create a new culture in the organization that centers on customers' needs. Intensive training sessions and induction programs were conducted to create awareness that the "customers' needs come first". This cultural change program did not cover only lines managers but also other teams such as workers at the dispatch and packing area and security teams welcoming the drivers at the plant gate.

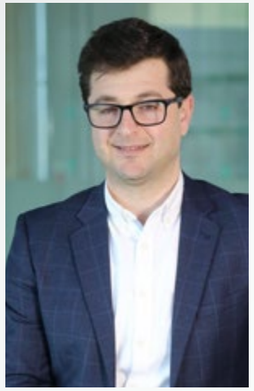
The vision of the Bazian Plant's Dispatch Transformation Project is to be the role model in the cement industry in Iraq.
The project sets three clear objectives:

- To create a safe and clean working environment in the plant
- Excellent service with value added extras
- Cost effectiveness

Dominique Brugier, GM-Industrial: "We have invested approximately $4 million in this project in order to create a better customer experience in dispatch process"

The dispatch transformation project is a real step change in Bazian's loading capabilities and organizational culture shift towards a customer centric organization in the packing-dispatch cycle. With the projects, process, and organization that we have put in-place customers and key stakeholders will enjoy a faster loading and un-loading with %40 waiting time vs manual loading and the customer will also be able to use their storage in a smarter and more profitable way thanks to the 2 tonnes standard cement-bag-pallets. In addition to that, they will be able to load different types of cement on the same truck, which wasn't the case before.
In this project we have also automatized the full in & out process for trucks inside the plant that will improve the flow of the trucks and also the reliability of the loading. Drivers will stay sitting in the truck cabin during the whole movement inside the plant. This will also help to improve safety conditions in the area; trucks will be moving in one line without reverse-return movements; work at high and truck energy isolation issues will be more under control, last but not least the reduction of the dust for the workers in the area.

It is a great example of team work; many different departments have been involved in these projects including: the industrial team (Bazian Plant and Project Team), the Supply Chain Team, the IT Team, the Procurement Team, the Sales Team, the Marketing Team, the Concrete Operations Team, the Security team and the Finance Team.



Rozhgar Barzan, Deputy Director of Supply Chain**: "With this project Lafarge Iraq offers a unique, differentiated and value added customer service"**

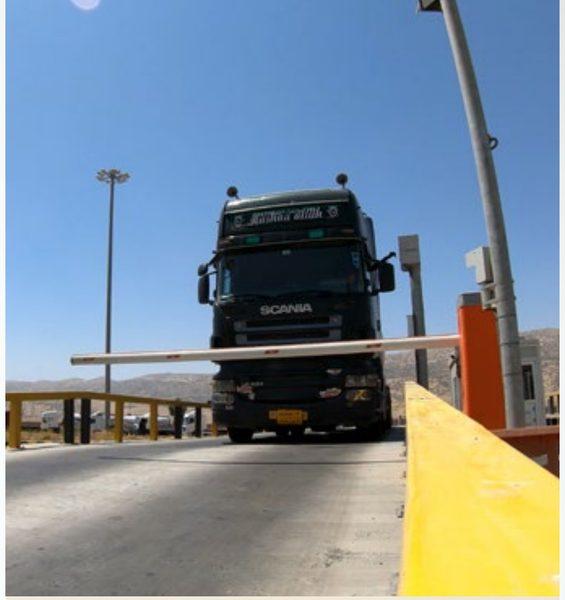
The Dispatch Transformation Project is a major milestone in our commercial transformation strategy. Our customers will now notice a clear differentiation of the Bazian Cement Plant and our company. Thanks to this project, Lafarge Iraq offers a unique service that will bring added value to all distributors, retailers, concrete producers, and of course truck drivers. This is a breakthrough for the Iraqi cement industry; it is a fully automatized supply chain action inside a cement plant.

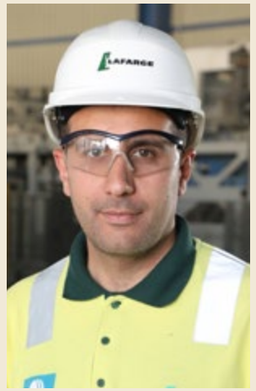
The Dispatch transformation was a program consisting of more than nine projects (Palletizer, Yard In Gate Out (YIGO) automation, Bag excellence, YIGO emergency power supply, Automatic Bag placer, the Khezmat project, Bulk Optimization, OP/the Pewist project and In-bound weighbridge automation).

In addition to all the work that been done to enhance Bazian's dispatch capabilities, the project also focused on creating a culture change through necessary training on how to be more customer oriented as a team. The project also focused on how to improve our internal process such as PM shutdown, supervision CCTV camera system, packaging quality covering dust, burst, size of bags.

The project timeline was just over 8 months, however, it was not an easy journey. The project managers and working committee teams' dedication, hard work as real team as well as collaborating with other departments, allowed the project to become a big success despite the challenges.

I would like to take this opportunity to thank all who contributed and supported the successful completion of this project.





Hezha Hawre, Palletizer Project Manager**: "It's all about the people who made it happen and now we can see local cement on pallets for the first time in the Iraq"**

The biggest challenge to implement the project in just eight months was to minimize potential impacts of the project on the delivery capability of the plant during the implementation phase. Another challenge was the complexity of the civil work design, which caused some delays. The journey has been instructive for me and the rest of the project team. The project was under a lot of pressure, we had to organize people from all the parts of the organization to work on the project and finish it as soon as possible. Managing such a complex and diverse project has been very challenging but fruitful at the same time. I am thankful to everyone that made this project possible.

Wissam Ayden – Khizmat Project Manager**: "We aimed to have a safer, dust free and high performing packing service in the plant"**

The Khizmat project is a packing improvement project focused on having high performance in the packing area, safer and dust free with a customer oriented skilled team, which can fulfill customer demand.

By applying this project we provided the customer clean bags with accurate weight.

Serkawt Quadr - Yard-in-Gate-out Project Manager **: "We automatized the whole flow of trucks inside the plant; from entering till exiting"**

The "Yard-in-Gate-out" automation and circulation plan project is an automation process which starts from entering the plant till exiting. It means having a circulation plan, which includes pre-parking, parking and buildings for employees and customers. This project is crucial for controlling safety in dispatch area by eliminating reverse movement or turning trucks and controlling energy isolation as well as providing better levels of customer service in plant by doing things such as having a free restaurant and restrooms for drivers.

We significantly improved the dispatch process by automating all touch points which cement truck drivers have to go through while loading the cement and reducing prolonged waiting time by having a truck queue management system in parking lanes

Luay Hasan - Dispatch Emergency Generators – Project Manager**: "The project aim was to serve our customer in a better way by avoiding long waits until the power grid is up again."**

The main objective is to supply power to the dispatch equipment from the emergency power backup during national grid power outage. This is in order to serve our customer in a better way and avoid having them to wait for long hours till the power grid is up again.

We have done this by installing Emergency generators and Automatic Transfer Switch (ATS) (which is an electrical switch that switches a load between two sources in electrical substations and connects with our substations).

Emergency generators will run automatically and ATS will feed power to the substation from the generators automatically during national grid power outage, and emergency generators will stop automatically and ATS will feed power to substation from national grid power automatically when power from the national grid returns.

Shakhwan Gazi
Cement Bag Excellence Project Manager**:**
“Our target is to serve our customers better by not only delivering high quality products but also high quality packaging”

The “Cement Bag Excellence” Project targets five main points as follows:

1) Improve packaging shape
2) Deliver cleaner bags to our customers
3) Keep the quality of bags under regular control
4) Optimize bag size
5) Eliminate customer complaints.

Sirwan Dara – Project Manager "PEWIST "**: “In this respect, we developed action plans to tackle and eliminate safety risks in a customer oriented way to create a healthy and safe working environment for all our people and customers.”**

The purpose of this project was to create a safe and clean circulation flow for the trucks entering the plant to load products. In this respect, we developed action plans to tackle and eliminate safety risks in a customer oriented way to create a healthy and safe working environment for all our people and customers. For example, we installed standard and efficient "Working At Height" platforms for the truck drivers coming with silo-trucks for loading bulk cement.

This was a very challenging project as customer and the customers’ drivers were really involved and impacted. What made it even more challenging is the fact that most of our customers hire drivers with trucks and rather than directly owning the trucks and employing drivers- which made the safety education side of it hard. None of our competitors or the government is apply minimum safety rules, so drivers sometimes don’t understand why we impose so many safety rules. However, through our communication and discussion with drivers we could listen and understand why drivers have challenges with our safety process and accordingly we managed to tackle and remove mentioned roadblocks to ensure full safety commitment from all key stakeholders.

PROJECTS

HIGHLIGHTS

- *KARBALA REFINERY*
- *ARDH ALMANASIK HOTEL PROJECT*

“THE KARBALA REFINERY PROJECT IS THE LARGEST STRATEGIC PROJECT IN CENTRAL IRAQ”

Ali Said, GM Lafarge Iraq Concrete Operations

Ali Said
GM Lafarge Iraq
Concrete Operations

How important is the Karbala Refinery project for Iraq (as a country)?

Karbala Refinery is a 6.5$bn project to produce 150,000bpd refined products for both domestic use and exports. The project is the largest strategic project in Central Iraq. A consortium of 3 Korean companies Hyundai, SK, and GS known as ‘HDGSK JV’ leads the project. Located 35 km south of Karbala city and lies 150 km south west of Baghdad having a 10 square kilometre project area.

How important is the Karbala Refinery project for Lafarge Iraq?

The Karbala Refinery Project marks the first step for Lafarge Iraq - Concrete to enter the Oil and Gas sector in Iraq. Lafarge Iraq - Concrete entered phase II of the project in 2015 to supply 253,000m^3 of standard concrete.

Following strong performance in quality consistency and efficient operations, the client, entrusted Lafarge Iraq with the remaining concrete volume from phase I of 173,000m^3 in addition to 106,000m^2 of foam, flow, lightweight and screed concrete to cover roofs for building structures.

How relevant was the collaboration with the International Key Account Manager (Heath Lee) to secure the project?

The collaboration with Heath Lee was key to approaching both the client management team in Seoul, Korea and to align the efforts and negotiations being done with the project site team in Karbala, Iraq.

It is important to know and speak the client language and having the “Korean” connection was a great facilitator in closing the gaps on the culture and language barriers that may exist in the negotiation process.

How relevant was the global partnership with Hyundai to secure this project?

Lafarge’s relationship with Hyundai goes back many years and the confidence gained by the client in previous projects, including the Karbala refinery, has certainly paid off in reaching the global partnership signed in 2017 and which should bear fruit in future opportunities as well.

Hyundai in Iraq have already approached Lafarge Iraq - Concrete to bid on the concrete supply for a Gas development site project in Majnoon Oil field in south of Iraq. The Majnoon Oil field is one of the largest oil fields in the country. LafargeHolcim will most certainly benefit from this global partnership with Hyundai for years to come.

What kind of future opportunities can this project potentially unlock for Lafarge Iraq?

Today, Lafarge Iraq - Concrete is the exclusive concrete supplier to the Karbala Refinery project and the opportunities already secured for VAPs covering 106,000m^2 is huge and one of the largest orders for foam concrete within the Group.

Lafarge Iraq - Concrete continues to provide concrete technology solutions to Hyundai and the JV companies and we look to unblock other potential opportunities like concrete tiles, coloured concrete, and concrete roads.

Lafarge Iraq - Concrete is currently working on several key and iconic projects in Iraq with the group and IKAM. The Central Bank of Iraq, a design of the late Zaha Hadid, will be an symbolic project in Baghdad using Ductal and other specialized high-performance reinforced concrete.

Other projects in coordination with IKAM and regional Key Project Managers are the Basra Cargo Terminal in Umm Qasr, Petro-China in Halfaya oil field, the US Consulate in Erbil, and Hanwha for the Bismayah residential project in Baghdad.

Today, Lafarge Iraq - Concrete is the exclusive concrete supplier to the Karbala Refinery project and the opportunities already secured for VAPs covering 106,000m² is huge and one of the largest orders for foam concrete within the Group.

How would you advise other countries in order to fully leverage IKAM?

Close and continuous collaboration with IKAM and the country team is key to share client expectations & perceptions and to have an aligned approach to effectively close the deal.

Leveraging LH's group presence and network around the world is an absolute competitive advantage when dealing with international construction companies and LH should be the go-to name for all building materials products and construction solutions.

In addition to the IKAM support, the close and effective collaboration between the Concrete team and the technical marketing team within Lafarge Iraq as well as the successful delivery of quality concrete by a professional site team was key to win all phases of the project.

LAFARGE IRAQ SUPPLIES CEMENT TO THE BIGGEST FIVE STAR HOTEL IN BAGHDAD

Lafarge Iraq is the exclusive cement supplier for the construction of the biggest hotel in Baghdad, this extensive project started in 2014. Baghdad International Hotel will be one of the biggest hotels in the region, it will include a shopping mall, event and conference halls, as well as a residential building. The total surface area of the project is 11.748m^2.

The residential building consists of 15 floors and two floors of underground parking, the building also has a helipad on the roof. The first five floors will house the shopping mall and conference halls. The upper 10 floors will be purely residential and will consist of 49 apartments.. The hotel starts from the first to the 15th floor, and it consists of 177 rooms, 50 suites, and a VIP suite for ambassadors.

The hotel, which overlooks the Tigris, is located in the, Al Qadisiya, Al Jadriya Bridge area of Baghdad, opposite to Biyarat Al Sham Restaurant- the hotel is only 13.5 Km away from Baghdad International Airport and 11 Km away from Tahrir Square.

The construction of Baghdad International Hotel started in 2014, and Lafarge Iraq has been the only cement supply partner.

The project has been executed by Ardh AlManasik Company.

Nooruldeen A. Arif, the project manager from Ardh AlManasik Company, said “I would like to thank Lafarge Iraq for their support and excellent service, starting from their technical support through to the delivery of the products of the highest quality. Lafarge Iraq have been consistent with their high quality product throughout the past two years. Lafarge Iraq’s Baghdad sales team have also been helpful in terms of solving sales-related issues.”

After a period of rebuilding after 2003, the last few years have presented many challenges to Iraq’s economy, projects like this are helping it to start growing again and Lafarge Iraq is delighted to be a part of projects such as these which will help to rebuild the country’s economy.

The hotel is due to open in 2020 and it is expected to provide a big boost to the tourism sector in Iraq.

Gender Diversity Is An Important Aspect of Lafarge Iraq's People Development Strategy

Gender diversity is an important aspect of Lafarge Iraq's people development strategy that includes reaching young female potentials starting from internship period and giving them every opportunity to develop their professional skills to grow up in the organization.

Bano Hawre – HR Coordinator

"I don't think women in Iraq can find better opportunities than what they get as female employees at Lafarge Iraq."

I joined Lafarge Iraq in June of 2017 after graduating from Construction Engineering at the American University in Sulaimania.

Prior to my current work at Lafarge, I had no work experience at any other organization.
Working at Lafarge has been a great experience so far. I do not think women in Iraq can find better opportunities than what they get as female employees at Lafarge Iraq. Women have a strong role in this community. Women can lead, and that is my aim as an HR coordinator. Gender diversity is one of the themes that our organization is seeking to have. International Women's Day on 8th March is a solid example of what I mean by gender diversity; female employees had a chance to tell their stories during an event organized by the community department for all female employees at Lafarge Iraq. They also had a chance to talk about how their chances of being a role model in the society had increased after working at Lafarge. Hearing those effective stories gave me hope that I as a woman will achieve my goals in the Lafarge community.

I joined Lafarge Iraq as a Project Coordinator Intern in August, 2017 and after completing my internship was offered fulltime work. I graduated from the American University of Iraq- Sulaimania and hold a BSc in Information Technology, with a minor in Business Management.

Prior to joining Lafrage, I worked at an advertising agency as a communications specialist for three years as well as teaching English as a Second Language (ESL) to professionals at a local institute.

Lafarge Iraq is a professional environment, it is an organization in which you constantly learn and develop. It's impressive that despite the large global scale of the company, great attention to detail and organization is evident at every level. It is great to work amongst so many professionals who are some of the best in their field and to witness their passion for their work, which inspires and motivates others around them on a daily basis.

Kazei Kurda – Customer Care Specialist

"Lafarge Iraq is a professional environment, it is an organization in which you constantly learn and develop"

Media Odai – Call Center Operator

“It's amazing to get experience from professional people in such large corporation”

Before joining Lafarge, I worked at Faruk Medical City for two years in the patient service team, mixing with doctors, nurses and patients in clinics was great because it all about helping patients and their relatives and this job taught me that a smile can change a lot. I also worked at the Sulaimania's court as a junior lawyer for a while after I graduated from my Law degree.

Although I only joined Lafarge in May 2018, I already feel part of the family. Being a member of the team of Lafarge Iraq is great, it's amazing to get to know all these professional people and getting experience in a such large corporation.

Muna Abd Ali Abdulateef
Control Room Operator - Karbala Cement Plant

“It is an international company and offers its engineers the opportunity to constantly learn and develop new skills, and this is true for both experienced engineers and fresh graduates alike.”

I joined Lafarge Iraq in October 2017. I was given training for 3 months then joined the Karbala Cement Plant team as Control Room Operator reporting to the production department. It is my responsibility that as an operation team we achieve the maximum production rate using the least/minimum energy and heat consumption. By doing this we ensure that we protect our local environment by controlling the gas emission from the chimney- in the control room we have a group of safety indicators to watch to make sure that our department and the wider plant is operating safely.

I really enjoy working at Lafarge, it is an international company and offers its engineers the opportunity to constantly learn and develop new skills, and this is true for both experienced engineers and fresh graduates alike. Lafarge has helped me in both my professional and personal development. It provides training to all its staff across every department. I’m very pleased to work for a company that invests in its staff.

Prwsha Mohamed – Customer Call Service Operator

“I find that Lafarge Iraq has a strength in training and career development”

After graduating in July 2017 with a bachelor’s degree in Electrical Engineering I worked as a helpline operator at QANDIL, a Swedish Humanitarian Aid Organization. Some of my duties included updating and maintaining the information database of IDPs and Refugees as well as working as a part the distribution team. I also volunteered at the Academic Development Organization, which organizes and prepares academic courses for graduates and university students.

I joined Lafarge in May 2108 and find that Lafarge Iraq has real a strength in training and career development, especially as the Lafarge call center is a new business zone for the country, where youngsters and new graduates are employed and get an opportunity to develop their career.

Marwa Emad
- Country Sales Analyst-Concrete Operations

“It is a good challenge to work in an international company”

Prior to joining Lafarge Iraq in February 2018, I worked in the telecom industry for seven years. I graduated from the Mechanical Engineering Department at the University of Technology in Baghdad. Working for an international company like Lafarge, challenges me in a good way and there is a great team spirit as we work towards growing the success of the company.

Gender diversity is also present in H&S management

Amanj Rasheed

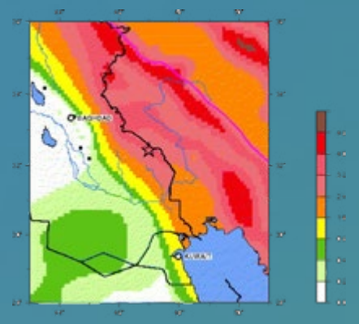
Country Health and Safety Head

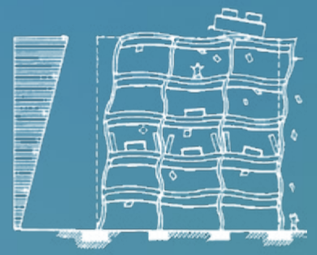
Eng. **Amjad Burnieh**

CEMENT & CONCRETE

Strengthening and Reinforcing Techniques for Buildings Located in **Seismic Zones**

The existing buildings in seismic zones which do not possess the necessary seismic design and special coding requirements will be subject to a range of serious damages. To reduce the seismic hazard and damages to the structural elements, the existing buildings should be rehabilitated, strengthened and reinforced to preserve safety and to increase their structural resistance to seismic collapse of structure in whole or in part.





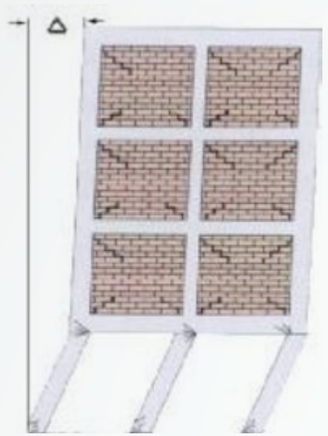
The earthquake map of the world shows many areas that are prone to different severities of earthquakes including catastrophic, destructive, medium and weak. There has been seismic activity in Iraq of different magnitudes which have reached 7.3 degrees in Richter scale, followed by more than 1360 aftershock earthquakes until February 2018. Hence, seismic protection in designing buildings, as well as retrofitting the existing buildings, is crucial order to increase their resistance to seismic forces.

The concept of seismic protection aims to preserve human life and protect the structural frame of the building without incurring significant damage during earthquakes.

Classification of earthquakes impact by degree of intensity

Intensity	Description	Magnitude
1	Within the measuring devices limits, can be recorded by seismograph devices	-
2 (Weak)	Hardly felt	3.2
3 (law)	Few people feel it	4.2
4 (Average)	Pedestrians feel it	4.3
5 (Fairly strong)	Some people wake up	4.8
6 (Strong)	Trees are shaking and things are falling down	4.8-5.4
7 (Very strong)	General alarm - walls are cracking	5.5-6.1
8 (Destructive)	Moving cars are affected	6.2-6.8
9 (devastated)	Some houses fall and the ground cracks	6.9
10 (Catastrophic)	The ground opens up and collapses	7-7.3
11 (Very disastrous)	Some buildings survive	7.4-8.1
12 (Horrible)	Mass destruction	8.1 (Highest degree)

Seismic Design Philosophy:



he design of earthquake-resistant buildings is different from the traditional design of buildings. For example, seismic forces are linked with the structural stiffness, ductility, alternate loads, and the speed of load application is very high and has a short application time of 5 to 45 seconds.

Despite the rapid development and good understanding of the structural behavior of buildings subjected to seismic activities, we notice many damaged or collapsed buildings due to lack of respect for codes and adoption of soft story (see the attached figure) as well as the bad encirclement of the longitudinal reinforcement in columns, and the collapses in the weak joints.

How Seismic design philosophy is applied?

- Adopting suitable structural system for vertical loads.
- Adopting suitable structural system for lateral loads (winds + earthquakes).
- Implement of non-structural elements in a proper way.
- Examine the joint work of these systems during the exposure of the building to earthquake, and ensure the best behavior for it (with minimal losses) and an acceptable economic solution.

Reinforced concrete buildings condition:

1. The Architectural formation.

- The horizontal projection of each mass should be regular as much as possible.
- The separator must be non-interlaced.
- Respecting the ratio between the length of the building and its width (in the projection).
- The thermal joints condition should be respected.

Bad

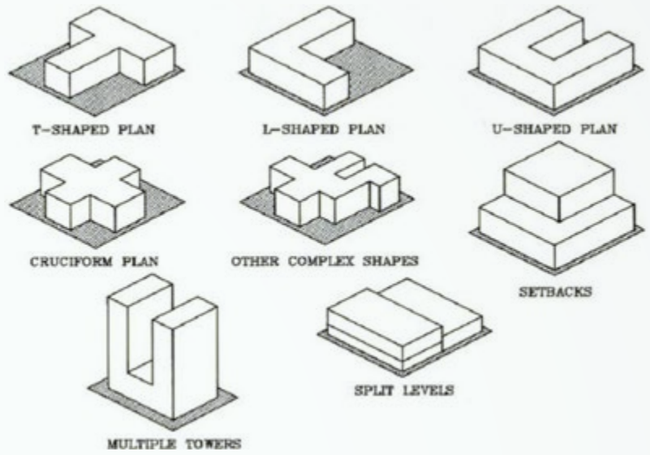
Good

2. Architectural and structural symmetry.

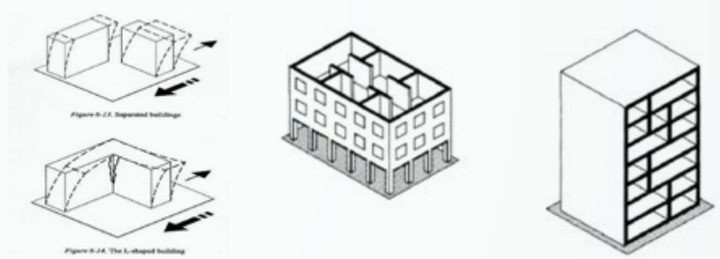
- The rectangular main façade is preferable.
- It is better to avoid masses that grow in its upper part as much as possible.
- It is preferable to avoid retreating in the top floors as much as possible (See the attached figure).

Not preferable

3. There should be horizontal and vertical regularity of the establishment, and irregular shapes must be avoided (See the attached figure)



4. Avoid interruption of the vertical elements (See the attached figure).



5. Placement of Seismic separators due to irregularity of shape.

6. selection of mixed structures steel-concrete in the high-rise buildings
(see the attached figure)

Unreinforced Masonry Buildings status (block buildings)

This type of building has many weaknesses in terms of resistance to the seismic activities. It can be strengthened in the following ways:

- Making modifications in the building projection to reduce asymmetry.
- Improve contact when the orthogonal walls converge by steel bolts, and attach them to the roofs by adding reinforced concrete beams
- Reinforcement of the walls by cement injection, especially when they are cracked, or by providing the walls with a layer of soft concrete reinforced with facial reinforcement nets.
- Reinforcement of columns and beams with steel frame. This is an economical solution, and it further increases the resistance of the building.
- In case the previous techniques did not achieve the desired purpose, it is preferable to introduce a system of reinforced concrete frames which resist seismic activities, or add shear walls that are well connected with the building while preserving the structural symmetry.

Recommendations:

- Selecting the appropriate reinforced structural system is the most important thing in the design work to resist the earthquakes. In order to do so, there should be close cooperation between the architect and construction engineer after the development of the first initial idea of the project.
- The successful design needs a profound understanding of the building behavior during the earthquake before starting construction.
- Carefully focus on all structural and non-structural details. Any negligence of these details can cause weakness in the building which may be a source of risk.
- The properties of construction materials and finishing materials should be closely identified and optimally invested.
- The joint action between the structural system and the finishing material shall be examined and taken into consideration when the building is exposed to the earthquake

The Gasha Project:

Developing self-sufficiency and supporting local income generation opportunities

گەشە
خەونەکانیش بنیاد دەنرێن

At Lafarge Iraq we hold a long-standing commitment to sustainable development, for us this means making a net positive contribution to society and to nature. Previous projects including the Peshang Project at our Bazian Plant, have centered on performance improvement, through creating an efficient and productive workforce. In 2017, due to current market conditions and the outcomes of the Peshang project, some of our team members began to purse their future outside of the organization.

We launched the Gasha project (Gasha means Grow in Kurdish) to support them in establishing their own ventures, and to aid local graduates who face an uncertain job market without the required professional qualifications. Lafarge have identified the community's development needs in this rapidly changing business environment, and we are dedicated to aligning the resources necessary to create a self-sufficient workforce.

At Lafarge Iraq we envision the creation of a belt of prosperity around the plant to develop a self-sufficient community, supporting local income generation opportunities and developing the local young talent in preparation for the future. With three streams of action, the Gasha project will tackle the aforementioned challenges in multiple ways.

The Dahatum and Peakawa stream will focus on former Lafarge Iraq employees, assisting them in establishing their own business ventures with financial and practical support. One of the ways we will do this is by collaborating with our partners at Grass Company for economic studies we will conduct a series of interviews and aid the participants in studying the feasibility of their project. Local Universities as Sulaimania University and the Kurdistan Economy Development Organisation studied the economy in Bazian Area to shortlist the successful projects was shortlisted and established in the Bazian Area. Lafarge Iraq will subsequently provide financial support for 10 months to 2 years, depending on the participants' needs.

The second stream of development will take the form of capacity building, in order to increase the chances of employment for the local community. Lafarge will undertake a study into the skills and competencies currently lacking in Bazian industrial community and plants to identify how the population can fill gaps in the employment market. Following this an intensive training program will be developed to foster these skills locally.

Building on the vision of the Peshang Project for an efficient and productive workforce, the final stream of action for the Gasha project will take the form of contractor engagement. We will support community contractors in boosting efficiency and increasing their adaptation speeds. Lafarge Iraq will work to collate contractors' current opportunities and share this information with other businesses. Furthermore, we will identify development and training needs, enhance the soft skills of contractor staff and develop new opportunities together. These initiatives will expand the contractors' ability to adapt to changing business conditions, in addition to improving professional partnerships in the future.

The initial success of the Gasha project has been documented with testimonies of participants from a variety of occupations:

Sobhy Rasul, a former electrician, believes "LH will never let you down when you leave the organisation". Former ME supervisor Arkan Star said "I advise my colleagues if anyone can establish a business by himself he should start as soon as he has the support of Gasha, because he will not be alone".

گەشە
خەونەکانیش بنیاد دەنرێن

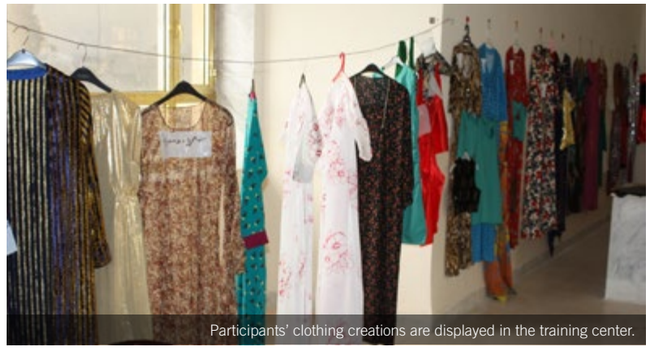
Economic expert Mohamed Kareem attested "the company is expressing a high level of responsibility towards its employees which, develops a high level of loyalty in the organisation". It is our hope that Lafarge Iraq employees who are pursing a future outside of the group will be equipped with skills to create a self-sufficient community for many generations to come.

Creating Local **Micro-Sewing BUSINESSES** for **WOMEN**

Supporting the economic development of local communities is a priority for Lafarge Iraq's CSR program. The most recent project in this area is a tailoring course for women in the city of Sulaimaniyah, Iraqi Federal Region of Kurdistan, which will enable them to start their own micro-sewing businesses in the future.

Previous Situation

Even though the Federal Region of Kurdistan is one of Iraq's fastest developing regions, women from rural communities have only limited access to employment and income generation opportunities. To support their families, they engage in traditional activities such as farming, tailoring and weaving, but often lack the necessary basic equipment and business skills to ensure long-term success.



Participants' clothing creations are displayed in the training center.

Main Actions

To set up the initiative, Lafarge's CSR team conducted a comprehensive needs assessment through regular meetings with local communities. Together with local authorities and an NGO partner, the legal and organizational framework of the project was defined. An intensive four-week theoretical and practical training course was developed, during which the participants receive materials, are trained in sewing and receive support to sell their products. In early ,2017 25 women from local communities participated in the first course.

Community Impact

The pilot's success increased demand for the training, and over 100 women applied to participate in upcoming courses. The newly acquired skills not only allow the women to save money by sewing their own clothes and household textiles, but also to gain additional income by selling their garments and textiles to clients.

External Partners

Lafarge's key partner for this project is Khawen, a local NGO focusing on the development of local social and economic opportunities. The NGO provided trainers and supervisors with well-established contacts in the communities for the tailoring course. Furthermore, the community needs assessment was actively supported by local authorities.

Learning and practicing together: most women participated in such a workshop for the first time.

Tangible and Intangible Benefits for Female Entrepreneurs

The workshop participants currently use two main channels to convert their sewing efforts into income. On the one hand, they get direct orders from neighbors, family, and other community members, who typically are their first clients. On the other hand, they make use of small shops and bazaar desks that facilitate the selling of their products.

With the project still in its initial phase, the local CSR team is currently looking into developing more structured sales channels to further support the commercialization of the clothes produced by the participants. For example, fashion exhibits or a tailor cooperative with its own brand could be used to scale up production, marketing and sales.

The project leaders emphasize how the sewing course not only tangibly contributes to the participants' household income, but also increases their self-esteem and sense of achievement. As the women slowly start to play a more visible role in society, the social benefit of this initiative will be even more important than the financial gains made.

"With my new skills and working ability, I now feel more valued and useful in my family and in the community."

Naima Ahmed, workshop participant

"Seeing our women more involved in daily economic life in such a confident and visible manner makes us proud and happy."

Abdullah Hidayed, community representative

LafargeHolcim

GROUP NEWS

Lafargeholcim to Host Innovation Start-Ups at Lyon R&D Center

LH Accelerator is a unique start-up acceleration program led by LafargeHolcim in collaboration with CCCC (China Communication and Construction Company) and Sika. The program brings together the three international leaders with innovative entrepreneurs from all over the world. Of hundreds of applicants 10 companies were selected to take part in the first six-month program. The selected companies cover the construction value chain from digital solutions to new products and new building methods.

This year, for the first time, LafargeHolcim and the Corporate Partners Chinese Construction and Communications Company (CCCC) and Sika put a call out to startups around the world looking for creators of innovations in our industry. Ten applicants were chosen to enter LH Accelerator, a six-month program offering mentorship, funding and technical expertise to accelerate these smart ideas into viable products that will drive innovation and sustainability in our industry.

Of the many startup applicants seeking to benefit from the entrepreneurial, business and technical expertise of industry leaders, 10 were selected by a jury of representatives from LafargeHolcim, CCCC and Sika, on the basis of the realism and innovation of their projects and the overall strength of their pitch. The solutions put forward by LH Accelerator's startups reflect the breadth of challenges facing the construction industry today, with proposals ranging from digital solutions to new construction methods, CO_2 reduction and new products. LH Accelerator was open to applicants worldwide, and in its first season will bring together startups from North America, Europe and Asia, and grant them insight into the challenges of other markets.

Accelerate to the future of our industry

In May 2018 LH Accelerator brought together its 10 chosen startups, along with mentors and experts from LafargeHolcim, Sika and CCCC, plus invited industry guests, for the official opening of the first season of the program. Held in the LafargeHolcim R&D Center, the Onboarding session will kick-off the intensive six-month program.

During the two-day Onboarding, the startups participated in tours of the R&D Center facilities, meet their mentors and prepare for the next six months with brainstorming sessions to define what success means in the context of the program. Each startup has been asked to come prepared to discuss the challenges they want to solve during the season.

For more information:
https://www.lh-accelerator.org

Lafargeholcim Supplies **High-Performance Concrete** for the **European XFEL** Super Laser in Germany

High-performance concrete by LafargeHolcim for the tunnels of the European XFEL - (Photo: European XFEL)

HIGH PERFORMANCE CONCRETE from LafargeHolcim lines the 3.4 kilometer tunnel housing the world's most powerful X-ray laser, European XFEL near Hamburg, Germany.

The European XFEL generates extremely intense X-ray flashes that are used by researchers from all over the world. The flashes produced in underground tunnels allow scientists to map atomic details of viruses, film chemical reactions, and study the processes in the interior of planets.

LafargeHolcim, through its local company Holcim Deutschland, delivered specialist concrete for the facility's extensive underground tunnel system including easy-to-pump heavy concrete for radioprotection and underwater concrete.

LafargeHolcim's concrete engineers also developed special concrete mixes specifically for European XFEL. These fulfilled the building contractor's requirements for reduced content of aluminum, natrum, silica and magnesium, which can traditionally be found in concrete and may have interfered with the highly sensitive measurements. Some concrete mixes, for instance, required the use of special limestone chippings to deliver particularly low silica levels. Together with the contractor, the Group carried out extensive chemical and physical tests for every concrete mix to ensure the highest performance levels for the project could be reached.

LafargeHolcim also developed an integrated logistics solution for the European XFEL. As part of the concept the Group had to make sure that deliveries complied with strict traffic, dust and noise regulations.

Today, with its global R&D center in Lyon, France, and building on the extensive tunneling expertise available in the Group, particularly in Switzerland, LafargeHolcim is uniquely placed to support architects and engineers by delivering construction materials to handle the specifications of technologically challenging projects all over the world.

LafargeHolcim **Foundation**
Sustainable Construction Awards

Global LafargeHolcim Awards 2018: Gold, Silver, Bronze for design teams led by women

Projects in Mexico, Niger, and the USA win the 5th Global LafargeHolcim Awards for Sustainable Construction. As diverse as the three top projects are in terms of geography, program and scale – they are all led by women. Alejandro Aravena (Chile) headed the independent jury of renowned experts. They evaluated the 15 finalist projects from all continents that had qualified for the global phase of the Awards. The USD 2 million competition is an initiative of the LafargeHolcim Foundation, which announces the first change in Chairman since its inception in 2003.

Global LafargeHolcim Awards Gold 2018 goes to "Hydropuncture", a publicly accessible water retention and treatment complex in Mexico. The project team is led by design director Loreta Castro Reguera at Taller Capital, and researcher Manuel Perló Cohen from the Universidad Nacional Autónoma de México. The infrastructure project in an underprivileged area of Mexico City intermingles flood basins and public amenities with spaces that follow the gravitational logic of flowing water. The jury stated that the sophisticated design addresses an urgent issue at a scale with real impact.

"Legacy Restored", the Awards Silver winner, is a religious and secular complex in Niger that reinterprets traditional local construction for a new mosque and a community center. The project was designed by architects Mariam Kamara, atelier masomi, Niger; and Yasaman Esmaili, studio chahar, Iran. It creates a civic space open to all in the village of Dandaji, supporting the education of women and strengthening their presence within the community. The design strategy champions local artisanship, traditional building techniques and materials produced on site.

The community-driven neighborhood planning project "Grassroots Microgrid" wins Awards Bronze for re-imagining empty lots as collective infrastructure for energy and food production as well as for civic engagement in Detroit, USA. The large team of authors is led by Constance C. Bodurow, founding Director of studio[Ci], a transdisciplinary design collaborative in Detroit. The project enables neighborhoods to reach energy autonomy through micro-infrastructure, leverages vacancy as an asset, and creates a new economic paradigm for community renewal.

From more than **5,000 submissions** down to **6 global winners**

The 5th International LafargeHolcim Awards competition attracted 5,085 projects and visions to be implemented in 131 countries. 1,836 projects passed the formal and quality checks and were assessed by independent juries in five competition regions: Europe, North America, Latin America, Middle East Africa and Asia Pacific. 11 prizes carrying a total of USD 330,000 per region were handed-over to winning teams in 2017. The three main winners per region automatically qualified for the global Awards; and the 40 Acknowledgement and Next Generation prize-winners were eligible for the Awards Ideas prizes 2018. The prize pool for the global phase of the Awards totals USD 350,000. The International LafargeHolcim Awards cycle spans three years, the 6th competition will open for entries in mid- 2019.

The detailed announcement is available on the LH-Foundation's website:
https://www.lafargeholcim-foundation.org/awards

ALPE GERA:
The World's First Roller-Compacted Concrete Dam

The Alpe Gera Dam is a gravity dam in the Lombardy region of Italy. It is 174 m (571 ft) tall and supports a 35 MW hydroelectric power station

The dam was constructed between 1958 and 1964 and is best known for the concrete placement techniques used during its construction. Instead of concrete being poured into conventional monoliths, it was poured in layers with a lean mix. Next, the concrete was settled with immersed vibrators and then contraction joints were cut into the layer. These methods were not only cost-saving but instrumental in the development of roller-compacted concrete in dam construction

In the 1950s, the study on use of more economical and more durable concrete in Europe resulted in the use of roller-compacted concrete (RCC) technology. RCC, which is also preferred in industrial installations and loading docks in the USA, is more economical than conventional concrete. In addition to its economic superiority, it has a higher strength and durability than conventional concrete, and it can be applied quickly without requiring special equipment. These are the important advantages that RCC provides. The dam has been successfully serving since 1964.

Can you guess how much m^3 concrete was used in construction of the Alpe Gera Dam?

a) 650.000 m^3
b) 900.000 m^3
c) 1.300.000 m^3
d) 1.700.000 m^3

You can send your answers to:
info.iraq@lafargeholcim.com

The winners for the previous quiz question are:

Jwan Abdullah
Country Internal Control, Compliance and Audit manager

Saadi Najim
Karbala Cement Manufacturing Plant - Technical Training Manager

Twana Sabah
Rizgari Office - Route to Market Manager

BHNAPlus

The following people contributed their time and effort in providing, translating, reviewing, and editing the content of this issue:

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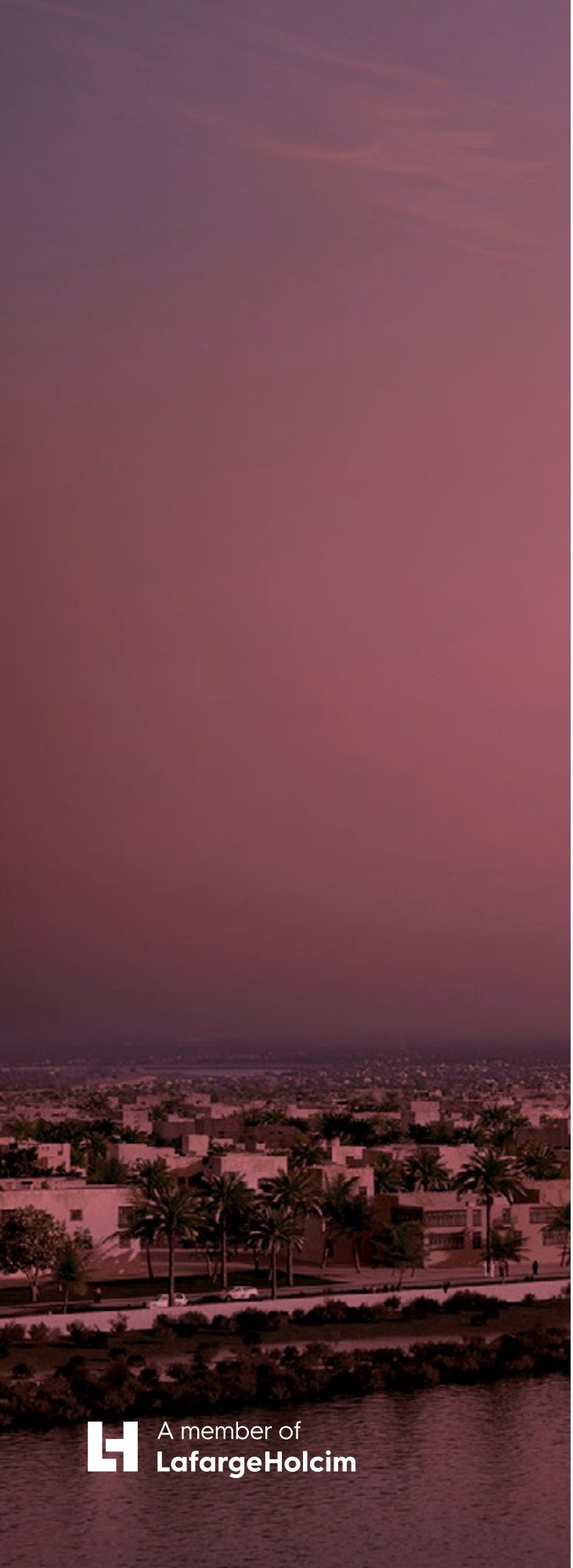
Lara Fatah • Nihat Yildiz



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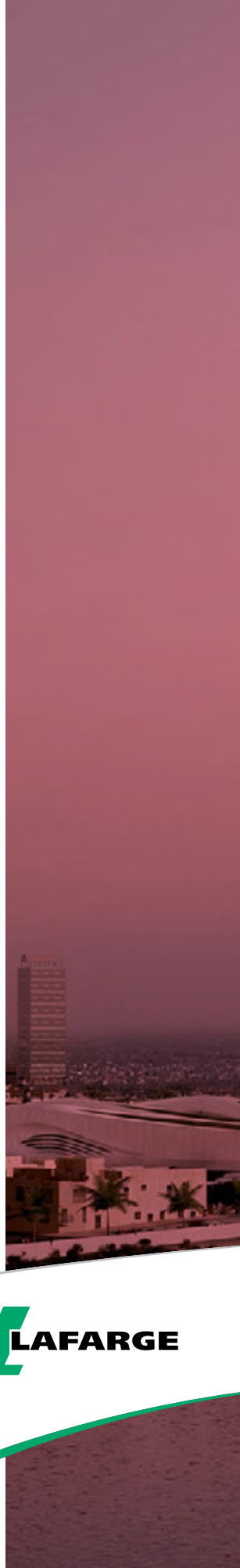

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