

ISSUE 01 | 2019

# INSIDE K&A

Khatib & Alami Newsletter



**BOLD**  
DECISIONS  
**BIG**  
STEPS  
BUILDING ON AN AWARD-WINNING YEAR



RESHAPING  
CITIES

DESIGNING  
BUILDINGS

CREATING  
NEIGHBORHOODS

OPTIMIZING  
INFRASTRUCTURE

## A NOTE FROM OUR CHAIRMAN AND CEO

With 2019 now well underway, my K&A colleagues and I look forward to working ever-more closely with our clients and partners as we seek to build on the strong momentum of last year.

For K&A, 2018 saw encouraging progress towards our vision of being “the partner of choice for our industry”, thanks to continued investment in our people, capabilities, systems and technologies. This is enabling us to meet the changing needs of clients as they respond to new demands, opportunities and trends.

An example of this is the emergence of different project delivery methods, such as early contractor involvement and Design & Build, with increasing numbers of clients looking to embrace new risk reward profiles. We have therefore taken important steps to ensure we are equipped with the knowledge – technically, commercially and culturally – to help clients address this market shift, and we have moved our capabilities upstream to become involved as an advisor in early project development. This means leveraging our engineering expertise with financial modelling to help clients ensure their projects are bankable and attractive to investors, while participating actively in PPP projects from the supply side.

In addition to expanding our services, we have also seen encouraging geographic growth beyond our core Gulf markets. In the Middle East, we have been expanding into geographies such as Iraq, while in Sub-Saharan Africa we have won projects in Gabon, Tanzania, Sierra Leone, Nigeria and Ethiopia, and we continue to explore opportunities in additional geographies such as Mozambique, Guinea, Cameroon and others. Simultaneously we are expanding east and have won projects in India and Malaysia, with more ongoing efforts that are likely to yield positive results in the CIS countries, where we are already working, and additional Far East countries such as Indonesia and Singapore.

The determination of our 5,500+ talented people to deliver outstanding quality and value was recognized last year with a number of high profile industry awards, which you can read more about here in our latest newsletter. But as satisfying as it is to be given praise, our minds are now firmly set on delivering our current projects with the same degree of tenacity and technical expertise.

In many cases, this also provides us with an opportunity to help clients build their own knowledge and capabilities, enabling their long-term progress, job creation and economic sustainability. For example, part of our work to establish and run the Project Management Office on behalf of Saudi Arabia’s Ministry of Finance includes delivering training and development which will drive up standards of project management across the Kingdom. This is set to have a major impact, which will be a further catalyst in support of Vision 2030.

Our aim, always, is to keep improving. For this reason, 2019 will see us push even harder to be at the forefront of innovation and digital technologies which can help us bring synergies, efficiency and productivity gains, as well as new business line offerings.

Of course, a commitment to technological innovation is nothing new to K&A. Our long history in Geographic Information Systems (GIS) is testament to that, and it seems remarkable to me that we recently celebrated our 30<sup>th</sup> year as a GIS specialist, as discussed in these pages. You will also find many more stories which cast light on our staggering diversity of projects as we strive to make a positive contribution to the communities in which we work.

Thank you for reading our latest newsletter, and please don’t hesitate to get in touch if you’re interested in learning more on a particular topic. Finally, I’d like to take this opportunity to wish you the very best for a happy, healthy and prosperous year ahead.

**Najib Khatib, Ph.D.**  
Chairman & CEO



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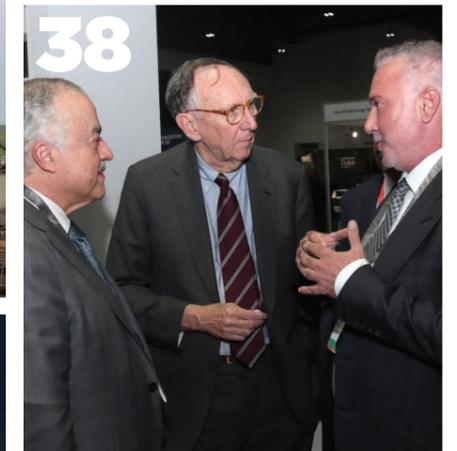
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# BUILDING ON AN AWARD-WINNING YEAR



Khatib & Alami (K&A) enjoyed unprecedented recognition from clients, partners and peers last year by winning a host of industry awards.

These awards not only set us apart from our competitors, but also further invigorate our drive to be at the forefront of innovation and sustainability in the construction sector.

Our most prominent company award was achieved in October, when we were named **Consultant of the Year** at the Construction Innovation Awards in Dubai. To receive such a prestigious accolade against an impressive shortlist of international consultancies is testament to the great work our 5,500+ strong workforce is doing right across the business.

We invested significantly in our people, capabilities, technologies and systems last year in order to ensure we were fully equipped to meet and exceed the expectations of our clients. Our impressive

performance was reflected in our employees' willingness to embrace the change required to meet the challenges of a dynamic and competitive global construction sector, and this ethos was a major factor in our multiple award wins.

Our Consultant of the Year award was quickly followed by a triple triumph at the renowned ENR Global Best Projects Awards in New York. A panel of industry judges assessed our projects based on our ability to overcome diverse design and construction challenges, contribute to the local community, address quality, innovation, sustainability and safety considerations, and effectively collaborate with all project stakeholders. Our three awards were:

- Al Habtoor City, UAE, **ENR Global Best Project 2018 Winner (Hospitality)**
- ABC Verdun Mall, Lebanon, **ENR Global Best Project 2018 Winner (Retail)**

- The Middle East Airlines Training & Conferences Center, Lebanon, **ENR Global Best Project 2018 Award of Merit (Education/Research)**

Each project required a high level of technical expertise, and each one was praised by the judges for incorporating innovative design and construction techniques.

Taking Al Habtoor City as a case in point, this was a complex, large-scale multi-use development on a prime site in the heart of Dubai. With a built-up area of 360,000 m<sup>2</sup>, key components were three five-star hotels and a 1,300-seat aqua theatre, one of only three in the world, that hosts Dubai's first permanent show, La Perle, by legendary Creative Director Franco Dragone.

As lead consultant, one of our main challenges was to guarantee the punctual delivery of the three hotels.



We devised a plan to construct them simultaneously along with the aqua theatre in order to speed up their delivery and keep the project on track and within budget. The overall project was a huge logistical challenge involving our engineers collaborating with approximately 150 companies.

In total, there were over 49 million safe man-hours worked, and during the construction phase nearly 34,000 people attended safety inductions.

At the MEP Middle East Awards in Dubai in November we were awarded the **Plumbing Project of the Year** for our role as lead consultant of La Perle in Al Habtoor City, Dubai, while our engineer, Mansour Kharoub, was named **Mechanical Engineer of the Year**, for his exemplary performance throughout the year.

La Perle was a truly stunning project which allowed us to demonstrate our engineering expertise and separate ourselves from the competition. We drew upon our global design resources to deliver the plumbing elements of the project using international best practice techniques, with a focus on sustainability, efficiency, safety and reliability.

Complex design challenges included a stage that transforms in seconds from a dry platform to 300 mm water-filled pool (and back again) using 2.7 million liters of water to simulate effects such as rainfall and floods. MEP innovations

included special 'air curtains', which forcibly but seamlessly separate the wet performers' zone (which exceeds 30°C) from the audience zone (which requires a temperature of 24°C) without affecting the show's performance and the audience experience.

A highly successful awards season was rounded off with a further award at the prestigious Construction Week Awards in



Dubai in December. We picked up the **Infrastructure Project of the Year** for our role as lead consultant of the Al-Wajeed Water Master Plan in Saudi Arabia, one of the Kingdom's major social and economic initiatives aligned with Saudi Vision 2030.

Our work on the life-sustaining project, located in the Kingdom's Empty Quarter (the world's largest uninterrupted sand mass), has helped safeguard the well-being of more than half-a-million people in Tathleeth and Bisha governorates who were at risk from water shortages and opened up what was previously thought of as an inaccessible area - the Empty Quarter - to new development and investment opportunities.

A highly complex undertaking lasting eight years and involving more than 2,000 people at its peak, we oversaw the design and build of a world-class water desalination plant and conveyance system (68,000 m<sup>3</sup>/day) to safely extract and purify water from the Al-Wajeed wells and transport it some 600 km to strategic reservoirs in Tathleeth. From there, potable water is now being distributed to the local population who were suffering from a drought, exacerbated by pollution in Wadi Bisha and the drying up of local wells.

The construction phase was a major challenge which saw the project divided into multiple construction packages and awarded to different contractors, with work started in parallel to save time. Construction of all major components was completed within agreed timeframes and budgets, with K&A working side-by-side with the client and contractors.

Last year was a truly successful year, however we look forward to raising the bar in 2019 and beyond.

# MEET THE AWARD - WINNING PROJECTS OF YEAR 2018



ABC Verdun Mall general view during construction

## ABC VERDUN MALL, LEBANON

### A VIBRANT COMMUNITY HUB

LEED certified ABC Verdun Mall in Beirut, Lebanon, was a deeply complex undertaking which had to be delivered in just 28.5 months. In order to meet this squeezed timeframe, in our role as design and supervision lead, we switched the structural design to precast. Corollary, manpower levels and costs were reduced on site, while during the construction stage we set up an authority-approved delivery and traffic management plan to ensure timely receipt of the precast components and zero disruption to local traffic. We drove the adoption of BIM from the project outset and through the operational phase (this was the first project in Lebanon to do so), thereby guaranteeing efficiencies throughout the entire asset lifecycle.



Central park view



Open mall concept with communicating floors



**"THE CLIENT AND ALL STAKEHOLDERS INVOLVED WITH THIS FANTASTIC PROJECT ARE PROUD TO HAVE PLAYED THEIR PART. IT HAS QUICKLY BECOME ESTABLISHED AND IS MEETING ASPIRATIONS WITHIN THE COMMUNITY."**

**Jamal Kreidieh,**  
Project Manager, ABC Verdun Mall

### PROJECT FEATURES

One of the biggest engineering projects in Lebanon and the largest mall in Beirut with 150,000 m<sup>2</sup> of built-up area and \$150 million construction cost

One of the first LEED certified developments in Lebanon

#### Key components

- » 10,000 m<sup>2</sup> anchor department store
- » 6,000 m<sup>2</sup> of entertainment area and 11 cinema screens
- » 1,800 m<sup>2</sup> of landscaped gardens
- » 1,700 car parks

Completed to a fast-track 28.5-month timetable with intensive coordination among 63 subcontractors and suppliers and more than 150 tenants' representatives.

Highly congested site demanded a detailed logistics plan for unloading materials and traffic management; solutions included the production of around 110,000 m<sup>2</sup> of precast elements.



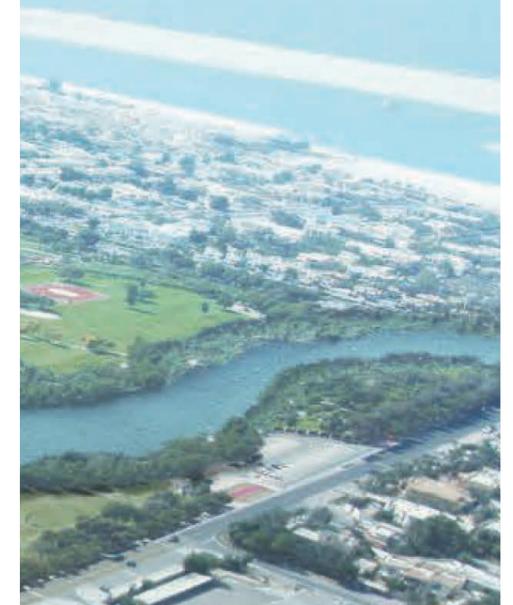
## AL HABTOOR CITY, UAE

### REDEFINING LUXURIOUS LIVING IN DUBAI

Phase one of Al Habtoor City in Dubai was a deeply complex major project involving multiple stakeholders. As design and site supervision lead, we drew on our vast project management expertise to coordinate the activities of more than 150 companies, a labour force of circa 5,000 people from 36 countries and the simultaneous construction of three 5\* hotels, which we recommended to the client at the very beginning to speed up the work. Our PMs coordinated regular face-to-face meetings, video conferencing and workshops with key stakeholders and utilized collaborative software such as Wrench Smart Project to aid effective communication and decision-making, thus enabling the project to stay on time and in budget.

**“THE SCALE AND AMBITION OF THE PROJECT, WHICH HAS BECOME A NEW DESTINATION FOR DUBAI, IS IMPRESSIVE EVEN FOR A REGION WHERE SUPERLATIVES ARE OVERUSED. IT COULDN'T HAVE BEEN DELIVERED WITHOUT STRONG CLIENT LEADERSHIP AND A COMMITTED PROJECT TEAM WHICH DREW ON EXPERTISE FROM ACROSS THE WORLD, ALL WORKING TOWARDS A SHARED GOAL.”**

**Hussam Al Akhrass** - Director, Supervision, Building-Supervision Dubai



### PROJECT FEATURES

US\$ 1 billion a large scale multi-use development project that comprises three world-class hotels with more than 1,600 elegant rooms.

#### Key components

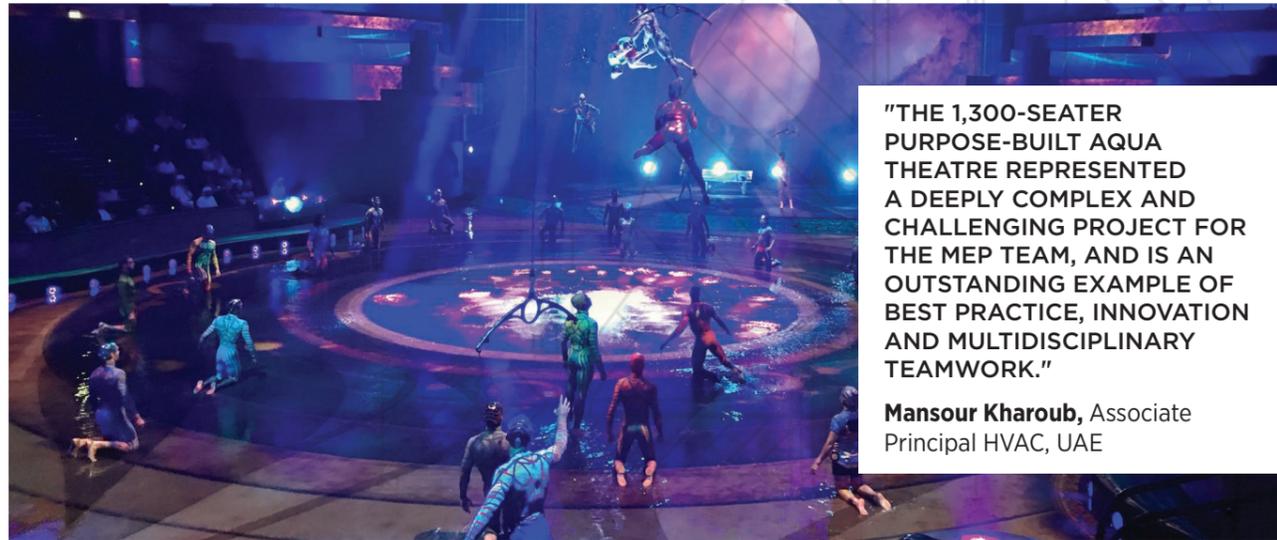
- » Habtoor Palace LXR Hotels & Resorts
- » V Hotel Curio Collection by Hilton
- » Hilton Dubai Al Habtoor City
- » A 1,300-Seat Aqua Theatre
- » The Boulevard and Marina Promenade
- » Tennis Academy and Club House
- » A 5,000-capacity Car Park

Over 49 million man-hours worked with a small number of incidents and zero fatalities.

During construction, 34,000 people attended safety inductions and 150,773 hours of health and safety training sessions were delivered.



# LA PERLE AQUA THEATER, UAE



"THE 1,300-SEATER PURPOSE-BUILT AQUA THEATRE REPRESENTED A DEEPLY COMPLEX AND CHALLENGING PROJECT FOR THE MEP TEAM, AND IS AN OUTSTANDING EXAMPLE OF BEST PRACTICE, INNOVATION AND MULTIDISCIPLINARY TEAMWORK."

**Mansour Kharoub**, Associate Principal HVAC, UAE

## A BREATHTAKING CONSTRUCTION CHALLENGE

As lead designer of La Perle aqua theater in Al Habtoor City, Dubai, we drew on our global design resources to deliver the plumbing elements of the project using international best practice techniques, with a focus on sustainability, efficiency, safety and reliability.

Given their critical nature, the robustness of the plumbing systems is essential, enabling them to meet expected levels of performance on a daily basis every single day, except for four weeks when detailed maintenance takes place. As a result, the techniques and technologies used are tried and tested – similar to those used in a commercial swimming pool but on a considerably bigger scale.

The SFX pump room uses multiple strategies to deliver different effects: performers

### PROJECT FEATURES

A theatrical masterpiece, part of Al Habtoor City.

#### Key components

- » A stunning 1,300-seat aqua theatre, one of only three in the world, that hosts Dubai's first permanent show, La Perle, by legendary Creative Director Franco Dragone
- » Complex design challenges included a stage that transforms in seconds from a dry platform to 300 mm water-filled pool (and back again) using 2.7 million liters of water to simulate effects such as rainfall and floods
- » MEP innovations included special 'air curtains', which forcibly but seamlessly separate the wet performers' zone (which exceeds 30°C) from the audience zone (which requires a temperature of 24°C) without affecting the show's performance and the audience experience

are hidden from view inside the 5-metre deep pool thanks to the creation of billions of micro bubbles; rainfall can be simulated across the entire performance area; and a spectacular waterfall plays a role in rapidly refilling the stage.

In a country where water is at a premium, it was essential that every effort was taken to recycle water as much as possible in order to minimize waste. All systems are connected and the water is constantly treated in the filter room using different grades of sand, while chorine levels are carefully monitored by the facilities control systems.

All aspects of the plumbing systems were designed to enable easy accessibility for regular maintenance, which also plays a vital role in maintaining the quality of the water and preventing risks of germs and infection.



"There are a lot of talented people here at K&A who are gaining bundles of experience through their work – so now we know we are capable of winning, let's go for it again!"

MANSOUR KHAROUB

WINNER OF  
MEP MIDDLE EAST  
MECHANICAL  
ENGINEER OF  
THE YEAR 2018

### WHO IS MANSOUR KHAROUB

Mansour Kharoub joined K&A some 23 years ago. He started his early career working on several of Dubai's early skyscrapers along Sheikh Zayed Road, including The Fairmont Dubai, Dusit Dubai Hotel, and the 72-storey, 333 m Rose Rayhaan – ranked the world's tallest hotel from 2009-2012 in the Guinness World Records Book. He is today a design team leader who spearheads the system engineering, analysis and the concept development of various mechanical systems. His core competencies lie in his ability to effectively communicate with and manage multidisciplinary teams while performing a variety of technical inspections and testing to ensure adequate compliance with the project requirements. The project that best reflects on Mansour's mechanical capabilities in design, supervision and project management is Al Habtoor City's La Perle aqua theatre.



**AL-WAJEED WATER MASTER PLAN, KSA**

**FINDING DRINKING WATER SOLUTIONS IN SAUDI ARABIA'S DRIEST PLACES**

The Al-Wajeed Water Master Plan is a major social infrastructure initiative aligned with Saudi Arabia's Vision 2030. This life-critical project, located in the Kingdom's Empty Quarter (the world's largest uninterrupted sand mass), is safeguarding the well-being of more than half-a-million people in Tathleeth and Bisha governorates, where water shortages were presenting a serious threat to health and the economy.

This highly complex project sought to safely extract, purify and transfer water from the Al-Wajeed wells to strategic reservoirs in Tathleeth - a distance of approximately 600 km, and Khatib & Alami was responsible for full design and construction supervision.

**"AL-WAJEED WATER MASTER PLAN HAS BEEN A MAJOR CATALYST FOR INFRASTRUCTURE DEVELOPMENT IN A PART OF THE KINGDOM PREVIOUSLY VIEWED AS INACCESSIBLE FOR INVESTMENT OPPORTUNITIES, AND NOW HAS A GROWING LOCAL ECONOMY WHICH FURTHER ADDS TO THE LONG-TERM SUSTAINABILITY OF THE REGION'S COMMUNITIES."**

**Maher Habanjar**, Senior Director - Water Supply & Wastewater Lebanon



Water reservoir site



Site conditions



Water treatment plant

Al-Wajeed water treatment plant

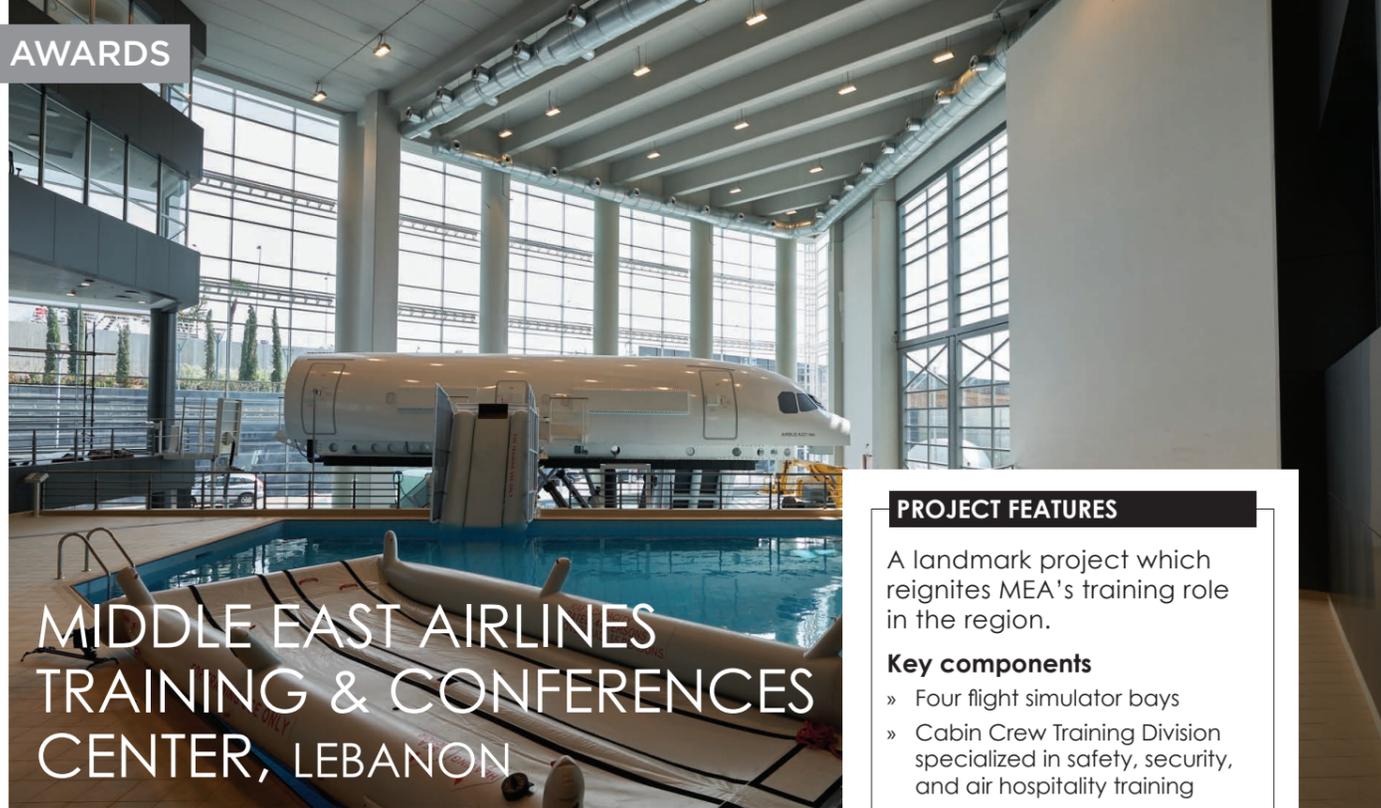


**PROJECT FEATURES**

A transformational project that will significantly increase the water supply for a growing 500,000 - strong population in Bisha and Tathleeth governorates.

**Key components**

- » 20 deep wells extracting 40,000 m<sup>3</sup>/day of water from the underground aquifer to water treatment plant
- » 600 km of transmission lines ranging from 1,000 mm to 200 mm diameter transporting potable water from sea elevation to an elevation reaching 1,100 m high over a distance that exceeds 300 km
- » Water reservoirs with volumes ranging from 50,000 m<sup>3</sup> to 2,500 m<sup>3</sup>
- » Pumping stations
- » More than 2,000 workers mobilized on sites during the peak periods



# MIDDLE EAST AIRLINES TRAINING & CONFERENCES CENTER, LEBANON

## PROJECT FEATURES

A landmark project which reignites MEA's training role in the region.

### Key components

- » Four flight simulator bays
- » Cabin Crew Training Division specialized in safety, security, and air hospitality training
- » Technical Aircraft Maintenance Division with the latest virtual simulation equipment
- » Ground and Administrative Crew Training Division
- » Involving more than 600 workers during peak periods
- » Safely delivered with zero construction-related fatalities

## AMBITION BEYOND THE OPEN SKIES

The Middle East Airlines (MEA) Training and Conferences Center project is Lebanon's first flight simulator training centre for the Middle East Aviation Academy near Beirut-Rafic Hariri International Airport, and therefore came with an extremely high level of expectation from the client, resulting in multiple design changes to elevate its grandeur.

"I didn't expect to visit in Beirut a center with such modernity, grandiosity and beautiful architectural design. It is one of the most important training centers I have ever visited worldwide", says President of Airbus Group, Tom Enders. "I am really impressed with the faith that the Lebanese people have in the future of their country and their persistence in overcoming the difficulties and unfortunate circumstances through continuous investments and achievements similar to this edifice we see in front of us."

We tackled the redesign requests head on by chairing a working group involving the client, general contractor and interior designers, part of which resulted in us

**"I DIDN'T EXPECT TO VISIT IN BEIRUT A CENTER WITH SUCH MODERNITY, GRANDIOSITY AND BEAUTIFUL ARCHITECTURAL DESIGN."**

**Tom Enders**, President of Airbus Group

leading a visit to the Airbus training centre and factory in Hamburg, Germany, to find inspiration for many of the standout features which ultimately made their way into the redesign. This included the Riad Salamé Auditorium's internal wood-cladded ceiling finish (space design of broken diamond), the curved leather seating, and the extruded control room, while we revamped the cockpit simulators area and the cabin crew area, with the ceiling design modified from conventional ceiling to exposed concrete ceiling with round HVAC ducting utilities at high levels.



Cabin crew and cockpit simulators



# PROJECT FINANCE AND THE MIDDLE EAST

**Helena De Flaviis, Khatib & Alami's (K&A) senior director for corporate development, gives her thoughts on how the procurement, delivery and funding of public infrastructure is evolving in the region.**

The Middle East is a region which dreams big and acts big. It is a region with an insatiable appetite to break ground on projects that stretch the imagination or challenge the norm. Just think of the Kingdom Tower in the Kingdom of Saudi Arabia, a mile-high super-tall skyscraper set to be the tallest building in the world, or the GCC Railway, a gigantic pan-Arab railway network connecting the Gulf states. The Middle East is home to all of these and much more.

As countries continue to diversify their economies away from a dependency on oil, the construction industry has been integral in making flesh many of the ideals and outcomes expressed in strategic government initiatives (such as Vision 2030 in Saudi Arabia,

the ongoing Five Year Plan in Oman, and Abu Dhabi Vision 2030), as well as supporting the private sector. Yet, as countries develop multiple sectors within their economies, they throw open opportunities for alternative procurement and funding models.

Public-Private Partnerships (PPPs) are never far from people's minds in this regard. They have been in existence in the UK since the inception of the Private Finance Initiative (PFI) in the early 1990s. Yet what of the Middle East currently? As of August 2018, the Middle East Economic Digest (MEED) noted that there were about \$224bn-worth of PPPs planned or under way in the Middle East and North Africa (MENA) region.

For some, the level of uptake is not fast enough, yet for others the progress is commensurate with the development cycle of these countries. We are already seeing new PPP frameworks emerge in the Arab world, with Saudi Arabia publishing a draft Private Sector Participation law to boost private sector participation beyond utilities, and Oman announcing work on its own PPP law. While the likes of Kuwait, Dubai and Abu Dhabi have established PPP laws in place.

The region's PPP projects are typically seen in large infrastructure projects or in the power and water sectors, where private developers have been attracted by the assured revenues of government electricity and water offtake guarantees, coupled with governments as the main

feedstock supplier being able to agree fixed utilities costs in advance. This has made the region one of the most competitive globally in the procurement of utilities. We are, however, starting to see some movement outside of power and water projects. The expectation is that 2019 will see other sectors shining in the PPP spotlight with large projects in transport like Jeddah's Obhur Creek Bridge, in social infrastructure including Saudi Aramco housing programme and Tatweer Building Company's Schools PPP programme finally becoming a procurement reality across Saudi Arabia, the biggest hope for a higher flow of infrastructure deals in the region.

**“THE EXPECTATION IS THAT 2019 WILL SEE OTHER SECTORS OUTSIDE OF POWER AND WATER SHINING IN THE PPP SPOTLIGHT.”**

The International Project Finance Association (IPFA), of which I am one of the Middle East council members, works to broaden understanding of project finance, PPPs, infrastructure and energy. It is not alone in offering this support, but compared to elsewhere in the world, this region could have more. For instance, the recently launched Africa Infrastructure Fellowship Program (AIFP) is already doing great work in Africa to help African governments build capacity in public infrastructure procurement. The same can be said for the Asia Leaders Programme in Infrastructure Excellence

(ALPINE) run by the Singapore Management University and supported by the Singapore Economic Development Board (EDB).

Encouragingly, there is an appetite globally to see an ecosystem emerge in the Middle East that fosters links with governments, the private sector, multilateral

development banks and other international organisations to enable sustainable development of infrastructure projects. The Global Infrastructure Hub, for example, has an MoU with the Islamic Development Bank, while in late 2017 the European Bank for Reconstruction & Development (EBRD) announced it had partnered with the City of Cairo to promote the development of a PPP programme to support infrastructure development across the country, and last November the International Finance Corporation (IFC) launched the first independent institute of directors in Iraq as part of efforts to promote corporate governance, boost business transparency, and encourage private investment in the country.

So, as Bob Dylan wrote, 'The Times They Are A Changin'', and although it might not be as fast as some would like, steps are being taken to ensure the Middle East is well equipped for more partnerships between the public and private sectors. ■



**PUBLIC-PRIVATE PARTNERSHIPS**

# Flourishing VALLETTA

**An engineering renaissance of Valletta's Grand Harbor that will revitalize its strategic functions while preserving its historic character and World Heritage site.**

Khatib & Alami (K&A) is set to help bring significant economic and social benefits to Malta after securing our first-ever project in the European Union. Commissioned by the Ministry for Transport, Infrastructure and Capital Projects, K&A will deliver a strategic plan for Valletta's Grand Harbor aimed at optimizing land use and port-related activities.

## THE GRAND HARBOR STRATEGIC PLAN

Malta wants to boost the harbor's cruise ship capacity, which on average welcomes up to 700 vessels a year and can berth a world-record seven liners simultaneously at peak periods.

Delivering the Valletta Grand Harbor Strategic Plan will involve the consolidation of docks required for berthing, increasing their lengths and rearranging existing roads to improve transport links to Valletta.

The port of Valletta is designated as a World Heritage Site and most of the urban fabric around the Grand Harbor is comprised of historic monuments and listed buildings. There are currently several abandoned structures and derelict buildings, polluting activities, boat cemeteries and repair yards that need to be rationalized within the framework of the strategic plan. ➔



During the planning process, K&A will place tourism-focused land uses on the Valletta side of the Grand Harbor, while concentrating industrial activities on the opposite side in Kordin. The plan will aim to relocate polluting activities that detract from the historic character of the port, such as fuel and cement bunkering, to Kordin, while transforming abandoned historic landmarks like Fort Ricasoli.

"Valletta located at the center of the Mediterranean sea represents a great growth opportunity for Malta, named the European Capital of Culture. We are working jointly with the Ministry to maximize the Harbor's potential and optimize the future port activities over the horizon of year 2040, while working in a delicate world heritage site with sensitive environmental and cultural constraints" said Shadi Sabra, Geotechnical & Heavy Civil Project Manager.



### RETHINKING CARGO SPACE

K&A is redeveloping a concession space plan along the waterfront of Valletta by reorganizing the harbor's activities at the shorelines and enlarging operations of the cargo handling quay walls. This will improve cargo capacity and create new opportunities for trade and marine services, repositioning Valletta as a trans-shipment hub. K&A is also working on unifying the urban fabric between the waterfront and hinterland. This site-specific design approach is being carefully carried to ease the restoration of the harbor's abandoned industrial sites. As a result of this work, the harbor will be more in keeping with its surroundings.

### URBAN REGENERATION OF THE FORMER MARSA POWER STATION

From 1953, Marsa town in the south-east of Malta had a power station which provided most of the electricity to the Maltese Islands. Due to environmental contamination from the power station, it was subsequently demolished and relocated, leaving the site abandoned.

K&A is set to deliver a schematic master plan for the former industrial site that will help reignite the waterfront area by removing derelict structures and creating a yacht marina and pedestrian promenade. The site, occupying an area of 62,000 m<sup>2</sup>, is divided into two parts separated by a scheduled



"VALLETTA, LOCATED AT THE CENTER OF THE MEDITERRANEAN SEA REPRESENTS A GREAT GROWTH OPPORTUNITY FOR MALTA, NAMED THE EUROPEAN CAPITAL OF CULTURE."  
**Shadi Sabra**, Geotechnical & Heavy Civil Project Manager

fortification wall. The master plan design of the upper part, spanning an area of approximately 25 meters above sea level, will be developed as townhouses overlooking the Grand Harbor. It will also incorporate a series of historic underground tunnels. The lower part is envisioned as a business park with recreation and leisure facilities.

### REDUCING WAVE AGITATION LEVELS NEAR THE HARBOR

A particular challenge facing K&A's experts is solving the "wave agitation" at the entrance of the harbor, which disrupts the navigation and berthing of vessels in harsh weather conditions, leaving a large part of the shoreline unusable.

K&A is reviewing the current phenomenon in order to propose mitigation measures and design a wave attenuation structure that is cost efficient, constructible and sustainable.

Easing navigation through the Valletta Grand Harbor entrance for incoming vessels will help minimize risk for operators during windy conditions and reduce the operational requirements currently being applied by the Harbor.

Valletta's revitalized waterfront and offshore area will present new opportunities for the Maltese government to regain valuable space for future investments, supporting the country's long-term growth and prosperity. ■

# Supporting the Kingdom's Vision 2030

Khatib & Alami (K&A) is proud to be making a lasting contribution to the Kingdom of Saudi Arabia's future development through our ongoing work with the Ministry of Finance (MoF).

Since being appointed as project management consultant (PMC) by the MoF to establish and run its project management office (PMO), K&A has been working closely with all stakeholders to shape the future development of some of Saudi Arabia's most economically, socially and culturally significant projects aligned with Vision 2030.

These projects include the expansion and renovation of the Two Holy Mosques in Makkah and Medina. In Makkah, this will help to increase the number of daily prayers up to 1.7 million, with around 2 million pilgrims per day, while Medina's capacity will grow to 1.6 million prayers per day. These vital projects will benefit an estimated 30 million pilgrims per year by 2030.

A key goal of the PMO is to drive world-class standards of project delivery across the MoF's infrastructure projects. One of the ways this is being achieved is through the establishment of stringent design guidelines, regular reviews, and robust controls on the activities of all third parties in relation to quality, cost, project schedules and project progress. We are also assisting with all tender documents and contracts and preparing feasibility studies where necessary on behalf of the MoF.

Just as importantly, the PMO is playing an important role in driving up standards of project management across the Kingdom through training and development, and providing regular exposure to international best practice. This is building capabilities and ensuring that knowledge and skills acquired through the PMO are retained within the Kingdom. ■

# WADI AL- UDAYRA HAIL REGION

## FROM A FORGOTTEN GEM TO A RESUSCITATED ECOLOGICAL CORRIDOR

A transformational project aims to help Wadi Al-Udayra become an environmentally protected area, restore its natural ecosystem, support its integration within Hail region's urban fabric and reignite its economy.

On the gently sloping parts of Hail desert in north-central Saudi Arabia stretches a natural valley of 130 km length, Wadi Al-Udayra, that has become a natural habitat to a growing population of different species thanks to its wealth of surface water. The Wadi, that breaks through the Hail region, is a natural ecosystem with national - if not globally important - wetlands that play a vital role in managing the hydrological cycle, and enriching the natural ecosystem. Vegetation provides additional treatment of organic contaminants and encourages infiltration of water into the soil, aiding the recharge of underground aquifers, gathering excess water during flash floods and anchoring the soil, thus reducing erosion.

Today 18 km of the Wadi is occupied by urban developed areas, causing unprecedented challenges to its sustainable ecosystem. As a result of burgeoning communities in its surroundings, an increasing amount of road infrastructure and utilities networks have been developed underneath the Wadi. In addition, the shallow subsurface water levels in the city and Wadi lead to the invasive growth of reed vegetation (*Phragmitis*).

The slow flow of water, coupled with the intensity of soil and reed vegetation, is causing stagnant water pockets inside the river. As a result, it has become a breeding ground for swarms of insects and a littering site for residents, negatively impacting the Wadi (visually and ecologically).

### ENVIRONMENTAL REHABILITATION AND RESTORATION OF WADI AL-UDAYRA

In response to the degradation of the environment and the challenges it has created, Khatib & Alami (K&A) has been appointed to assess and propose solutions to prevent and mitigate environmental deterioration. In addition, K&A will restore the Wadi's vegetation, environmental and ecological conditions, and recommend a multidimensional transformative program, dovetailed with long-term sustainable measures, to help reposition the Wadi as a center of social interaction and recreational areas.

"This project is a national dream," says Project Director Dr. Ali Zeidan. "To transform this Wadi into an ecological and sustainable green corridor that preserves its wealth of lakes, stream corridors, wetlands, and desert parks in order to restore its biodiversity is a multidisciplinary undertaking."

He adds: "It will necessitate a diverse team of planning, environmental, landscaping and ecological experts to look into the preservation and conservation of the Wadi, from protecting its water resources, to enhancing its landscapes and installing green infrastructure in its surrounding communities. Furthermore, we are proposing a strategic development plan to explore the city's touristic and economic potential." ■

# A HOLISTIC DESIGN APPROACH

## PRESERVING ECOSYSTEMS

- Proposing planted islands to attract species
- Turning existing wetlands into conservation and protected areas
- Turning the area into an Important Bird and Biodiversity Area
- Controlling the invasive reeds
- Reducing littering

## INSTALLING GREEN INFRASTRUCTURE IN SURROUNDING COMMUNITIES

- Reallocation of existing utility networks outside the Wadi
- Enhancing roads' resiliency in situations of flooding and congestion
- Hydrological solutions that are receptive and responsive to the Wadi's existing form

## PROTECTING WATER

- Treating water for irrigation
- Using and maintaining surface and subsurface water sources efficiently
- Restoring water quality through natural processes and oxygenation
- Creating continuous water channel inside the Wadi

## GROWING HAIL'S BIODIVERSITY AND PROMOTING ECOTOURISM

- Proposing activities that are in line with international and local sustainable and environmental standards such as eco-lodges, sustainable zoo and ecological parks
- Proposing soft activities such as camping and picnic areas with low environmental impacts
- Offering sustainable land uses that promote ecology and the restoration of biodiversity such as seed banks, agricultural education centres, research centers

## ENHANCING LANDSCAPES

- Planting of native trees to restore biodiversity, greening landscapes inside the Wadi, in partnership with desert environment experts from the Center for Middle Eastern Plants/ Royal Botanic Garden Edinburgh (RBGE)
- Creating lakes
- Building islands inside the Wadi for both recreational and ecological purposes
- Designing the Wadi to become pedestrian friendly
- Enhancing the Wadi's edge
- Upgrading existing parks along the Wadi

To date, K&A's team has undertaken numerous site visits and surveys, analysing the water and soil quality in the Wadi, detecting any sources of contamination and levels of pollution, and defining sources of all water discharges that are seeping to the Wadi.

Technology has also played a valuable role in delivering solutions, with K&A employing its GIS expertise to capture and layer all data collected from surveys. Moreover, environmental studies were conducted on the stagnant water, the existing vegetation and endangered species to come up with strategic solutions that will help restore and sustain the Wadi's natural ecosystem. During the planning process, it was very important for K&A to undertake a flood risk assessment to help prevent and mitigate the social and economic impacts of future extreme flash floods.

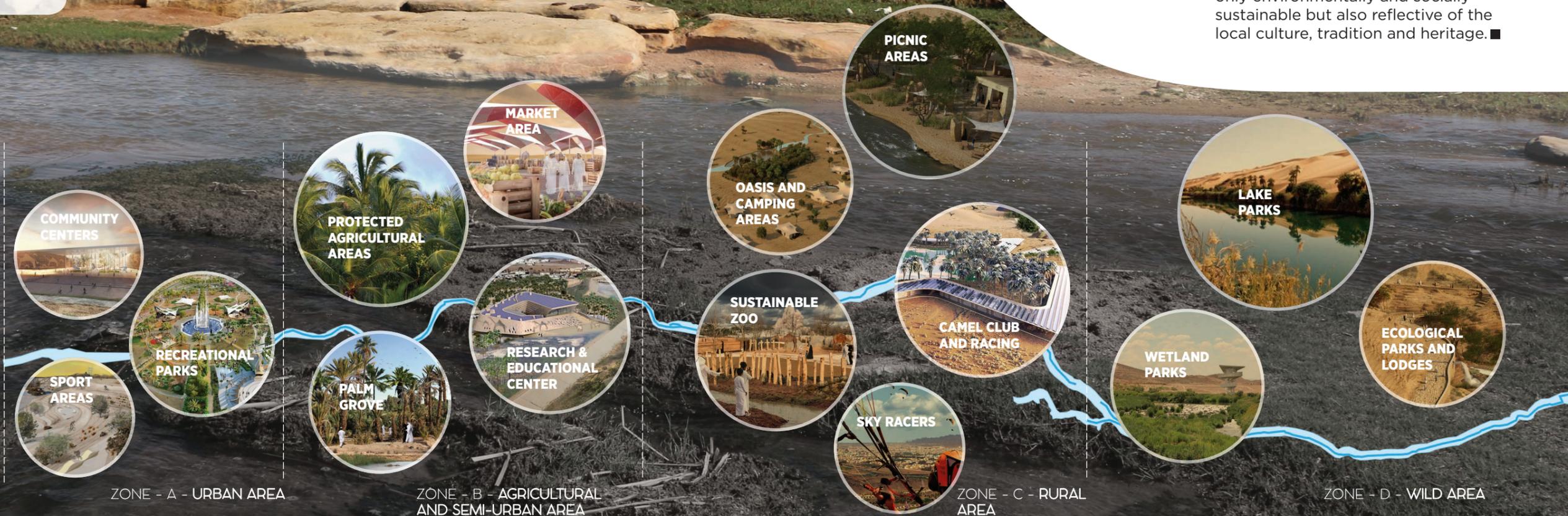
K&A associated with Royal Botanical Gardens of Edinburgh (RBGE) will assist in environmental rehabilitation and landscape restoration.

## "INVESTING IN THE ECOLOGICAL INFRASTRUCTURE IN CITIES...MAY NOT ONLY BE ECOLOGICALLY AND SOCIALLY DESIRABLE, BUT ALSO QUITE OFTEN, ECONOMICALLY ADVANTAGEOUS"

**Tony Miller**, Ecological Expert at Royal Botanic Garden Edinburgh (RBGE)

"The background for this project is the growing interest in restoring urban ecosystems," says Tony Miller, Ecological Expert at RBGE. "It is now generally accepted that investing in the ecological infrastructure in cities, and the ecological restoration and rehabilitation of ecosystems occurring in urban areas, may not only be ecologically and socially desirable, but also quite often, economically advantageous. Green spaces, such as parks and gardens and "blue spaces", including wadis and artificial water provide many benefits."

This project draws on our thirst to shed light on cities' hidden gems, aiming to restore their urban ecosystems with tailored solutions that are not only environmentally and socially sustainable but also reflective of the local culture, tradition and heritage. ■



# IRAQ, PUT YOUR LIGHTS ON



REHABILITATION OF  
POWER SUPPLY SYSTEMS  
IN THE GOVERNORATES  
OF NINEVEH, SALAH AD-  
DIN AND AL ANBAR

**Khatib & Alami (K&A) and German engineering consultancy Fichtner are helping restore power supplies within Northern Iraq territories, a project that aims to rehabilitate the power supply networks in three provinces which were severely impacted by the war and subsequent period of unrest and instability.**

The project is part of a major infrastructure program which is funded by the German government, through KfW Development Bank, to support the return of internally displaced people (IDPs) in liberated areas of Iraq.

Working closely with Iraq's Ministry of Electricity, the first phase of the project is seeing K&A and Fichtner focus on the restoration of priority transmission and distribution networks in Nineveh Governorate (132/33 kV substations and 132kV Transmission lines), while the second phase will extend to additional networks in the Governorates of Nineveh (Grand Mosul 400/132/11 kV GIS substation), Salah ad-Din and Al Anbar (132/33 kV and 33/11kV substations, and 132kV Transmission lines). While Fichtner is delivering German expertise, K&A will provide technical capabilities and local market knowledge, including design and construction supervision services.

K&A's Power & Renewables Vice President, Roupen Sulahian, said: "This is an important project which will help to restore normal life to hundreds of thousands of people who were uprooted from their homes because of the ongoing threat of terrorism."

"We look forward to building a strong and productive partnership with Fichtner which will re-establish reliable, safe and efficient power supplies, as a first key step towards long-term growth and development across Northern Iraq. The next step is to provide water infrastructure for those areas."

## PROJECT OVERVIEW

**Client:** Ministry of Electricity - Iraq

**K&A Role:** Member in JV

**Project Specifications:**

- Construction Cost: \$208 Million
- Design Completion Date: 2019
- Construction Completion Date: 2022

**Services Provided:**

- Design Development
- Tender Documents
- Site Survey & Analysis
- Construction Supervision



Around a million people are estimated to have been internally displaced in Nineveh governorate, while its capital Mosul has been left with severe challenges across all aspects of its infrastructure. The 'German Credit Facility to Assist the Return of IDPs in Iraq' (GCFI) Program aims to catalyze the restoration of essential public services and infrastructure in liberated territories.

K&A has more than a decade's experience of supporting international development agencies, including the World Bank. This project represents K&A's first significant project directly for KfW. ■

SECURING  
A SAFE  
JOURNEY  
ALONG  
THE

# SALANG PASS



**Khatib & Alami (K&A) is undertaking a major rehabilitation and upgrade of the Salang Pass to improve Afghanistan's economy and the health and safety of road and tunnel users.**

The functioning of Afghanistan's economy depends to a large degree on reliable road connections across the Hindukush mountain range.

The main crossing in these mountains is the Salang Pass (86 km), which was built in the 1960s by the former Soviet Union. It carries most of the cross-Hindukush traffic, typically around 9,000 vehicles a day, with a high share of trucks. About 80% of goods and most fuel coming into the greater Kabul area are carried from the north across the mountains on the Salang highway. It is a winding road with only one lane in each direction. At its highest point (3,420 meters) is the 2.8 km Salang Tunnel, the world's second highest road tunnel.

To minimize wear and tear, while improving safety on Hindukush Mountain roads, the Ministry of Public Works launched a project funded by the World

Bank that is seeing K&A develop measures to upgrade the road, as well as the ageing Salang Tunnel, bridges and snow sheds.

"This is a deeply challenging project because of its scale, remoteness and the extremely harsh environment. The Salang Pass is a vital artery for Afghanistan, so whatever measures we take must be designed to cause minimal disruption, while improving its safety and integrity. Wherever possible, we are using advanced surveying techniques which will provide the most comprehensive understanding of the Salang Pass that has ever been delivered, enabling us to pinpoint areas in need of critical attention and plan for the long-term robustness of the route," said Geotechnical & Heavy Civil Director, Khaldoun Nasreddine.

More than 100 specialists are involved in this project, undertaking a multitude of tasks on the Salang Pass.

Among their activities, they are inspecting and assessing the tunnel lining, drainage, ventilation, lighting and electrical systems, safety conditions and integrity of all structures.

## Salang-Pass Existing Tunnel and Road Conditions

The Salang Pass is today operating over-capacity, having suffered from very minimal maintenance across its service life. Compounding the issue is truck overloading and excessive snow-chain use, which has led to numerous potholes.

The snow sheds, which are designed to provide protection from avalanches, have also been weakened by long-term exposure to freezing temperatures. Inside the Salang Tunnel there is insufficient ventilation and lighting, while water from melting snow and a mountain-top lake seeps through holes in the ceilings and walls. During visual inspections, the ability to temporarily close the tunnel and roads was severely limited due to high traffic volumes and lack of alternative routes. In addition, the inspection teams were subjected to health hazards such as a lack of oxygen and freezing temperatures. ■

**"THE SALANG PASS IS A VITAL ARTERY FOR AFGHANISTAN, SO WHATEVER MEASURES WE TAKE MUST BE DESIGNED TO CAUSE MINIMAL DISRUPTION, WHILE IMPROVING ITS SAFETY AND INTEGRITY."**

**Khaldoun Nasreddine,**  
Geotechnical & Heavy Civil Director

**TANGIBLE BENEFITS**

**Improving Tunnel and Road Infrastructure**

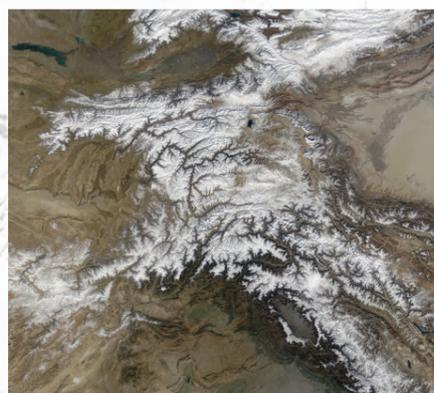
- Securing the structural integrity of the Salang Tunnel
- Upgrading 15 existing bridges and 21 existing snow sheds
- Enhancing the road structure and surface
- Installing communication systems and traffic counting systems
- Replacing/rehabilitating the existing tunnel lining

**Mitigating the Impact of Natural Hazards**

- Minimizing water leakage and assessing the link between the small lake above the tunnel and water leakage within the tunnel
- Developing a drainage system and adopting an innovative pavement heating system in the tunnel, including an antifreeze pavement system
- Extending existing snow sheds and creating new structures to reduce the vulnerability to avalanches
- Providing safety systems, including fire protection and video surveillance

**Upgrading MEP Components**

- Improving air quality inside the tunnel with a proper ventilation system
- Supplying lighting, power generators, electricity supply and distribution, including emergency generators



**A Steadfast Commitment to Delivery**

To overcome the difficult conditions, K&A made use of mobile mechanical platforms and ground-penetrating survey techniques to enable their assessments. Other activities included sampling within the tunnel and material sampling in the snow sheds to evaluate the concrete structures. Based on these findings, K&A is carrying out the design of the rehabilitation works of existing structures and the tunnel, and the design of new structures and road upgrades, which are earmarked to be completed by July 2019.

The Salang Pass is among many projects K&A has undertaken to mitigate natural hazards ranging from sand dunes assessments, landslide mitigation, cavity and sinkhole treatments to soil and water pollution, flood prevention, seismic hazard assessments and more. This latest project conveys our persistence and dedication in managing complex solutions while operating under challenging site conditions. ■

**CHANGING THE CULTURE OF QUALITY, HEALTH, SAFETY & ENVIRONMENT**

2018 saw a huge push to drive up QHSE standards across Khatib & Alami (K&A). Here we outline the great work done to align with best practice and meet clients' expectations, and highlight a few of our award-winning projects that have raised the bar of QHSE.

In Q1 2018, our Executive Management agreed to a strategic plan that focused our efforts on increasing QHSE standards across the K&A Group. One of these objectives was to achieve OHSAS 18001 and ISO 14001 certification for the Gulf region, and we successfully achieved this in June 2018. This is the easy part!

The implementation of QHSE systems and changing cultures are the real challenge and the UAE in particular is now reaping the benefits of our efforts.

Subsequently, we restructured our 'HSE Supervision Services' to align with best practice, our international competitors and our client expectations to go the extra mile. Our clients and PMCs have also noted that we are changing.

The journey is by no means complete. We have a plan to drive effective HSE leadership, continue training and developing our people throughout 2019. ■



# THE BIG 6 CHANGES TO HSE SUPERVISION SERVICES

## 1 Overhaul the HSE supervision documentation

The entire structure of our HSE supervision documents has been restructured, updated and enhanced. We train our HSE staff and PMs on what they have to do and when it should be done. In particular, our HSE staff have to compile the following and share with the PMCs and clients as necessary:

- a. **A project risk assessment** to identify the significant fatal hazards (focus on the big stuff not the trivial)
- b. **An HSE plan** in line with our contract deliverables and client expectations
- c. **Standard HSE supervision KPIs** such as number of inspections per month, number of audits per month
- d. **Complete a monthly 'Pro-Active HSE Monitoring Programme'** that defines:
  - When HSE inspections will be carried out and where
  - When HSE topic audits will be carried out
  - Delivery of HSE training sessions
  - Completion of Senior Management Safety Tours

## 2 Drive HSE standards through our leaders

All K&A project supervision directors are accountable and asked to 'get stuck in', understand their project HSE standards and walk the talk. They have to monitor progress and have now started to conduct a monthly Senior Management Safety Tour which demonstrates to the site teams, our client and the contractor that we mean business.



## 3 Ensure all the K&A HSE staff are competent

All K&A HSE staff must meet a specific competency criteria which includes the NEBOSH General Certificate and successfully pass our written technical assessment. The assessment gives us a good indicator of the hazard spotting skills and dealing with difficult situations. This is also rolled down to our contractors HSE staff to ensure right skills are deployed to each level of our projects.

## 4 Get all the K&A REs, Engineers & Inspectors involved

All K&A PMs and REs have been asked to complete the OSHA 30 Hours training certificate - this helps them understand the basic requirements for HSE management in construction. All K&A engineers and inspectors are provided with formal face-to-face training which includes an expectation for them to get involved. This increases the number of people monitoring our contractors HSE standards and drives our objective to make HSE everyone's responsibility - it becomes a natural part of our culture.

## 5 Get tough with our contractors!

It's not always easy. We hold the hand of our contractors and coach them wherever possible and our clients are expecting this more and more. We can provide templates and documents to get them started.

We carry out intense HSE inspections and use WhatsApp groups to reduce paperwork and speed up observation close out.

Sometimes our contractors don't always respond or listen to us straight away so we explain techniques to recalibrate contractors during our HSE supervision training modules. PDs, PMs, REs and HSE staff can use various techniques such as issue written instructions / NCRs / invite contractors senior managers in for discussions / withhold or deduct payments / suspend certain aspects of the works / issue written warnings or remove contractors staff from the project.

## 6 Report, monitor and review

We have a robust reporting mechanism that allows us to monitor the effectiveness of our HSE supervision. We actively engage with our clients and PMCs, listen to them and use the feedback listen to continually improve.



## CLIENT RECOGNITION

In Q3 2018 we started observing an increase in HSE awards for UAE projects:

August '18 - Emaar A2 A3 Residences (Dubai)

🏆 1 MILLION MAN-HOURS WITHOUT LTI

September '18 - Emaar Opera Grand (Dubai)

🏆 GOLDEN HELMET AWARD FOR THE MONTH OF SEPTEMBER

October '18 - Emaar Park Heights (Dubai)

🏆 3 MILLION MAN-HOURS WITHOUT LTI

November '18 - Emaar Park Heights and Sobha Acacia (Dubai)

🏆 FIRST AND SECOND PLACE CONSECUTIVELY IN DUBAI HILLS ESTATE HSE OLYMPICS

November '18 - Emaar South Golf Views (Dubai)

🏆 AWARD OF APPRECIATION FROM DUBAI SOUTH FOR CONTRIBUTION TOWARD WORKING AT HEIGHT CAMPAIGN

December '18 - MAF Al Zahia City Centre Mall (Sharjah)

🏆 16 MILLION MAN-HOURS WITHOUT LTI

December '18 - SSPD Saadiyat Island Resort Development (Abu Dhabi)

🏆 15 MILLION MAN-HOURS WITHOUT LTI

# SUCCESS STORIES

## THE BEST THINGS COME IN THREES

K&A has at least three reasons to be cheerful after landing the Golden Helmet Award for excellence in Health, Safety, and Environmental (HSE) awareness for a third time.

We were presented with the award for September 2018 from client Emaar and project management consultant Holfords for our HSE practices on the Opera Grand Residence, which is part of the Emaar Boulevard Towers Program, Downturn Burj Khalifa, Dubai.

Luai Khader, Senior Project Manager on Opera Grand Residence, said: "This award shows that proper communication and cohesiveness amongst all the team members is integral to any successful project. This commendation goes out to the site and



HSE teams for their alertness, attention and cooperation."

We have been the design and supervision consultant since 2016 and currently have approximately 24 staff deployed on the project, which is being constructed by Al Ghandi & Consolidated Contractors International Company and has almost reached the halfway stage.

## DUBAI SOUTH

It involves a 71-storey Opera Grand Tower with 67 levels of residences, 289 residential units plus six townhouses, one level of residential amenities, two levels of cafes, restaurants, shops outlets and a grand entrance lobby at the lower level. The 2, 3 and 4-bedroom homes feature spacious living areas, with views overlooking the Dubai fountain. It has a built-up area of 108,589 m<sup>2</sup>.

The Golden Helmet Award runs every month between all the contractors and consultants working on the Emaar Boulevard Towers Program, Downturn Burj Khalifa, Dubai project.

Our first award was achieved in January 2017 and our second award in October 2017.

K&A was the winning consultant during Dubai South's "Safety at Height Campaign", thanks to our implementation of exceptional Health, Safety and Environmental (HSE) initiatives. The award was presented by His Excellency Eng. Khalifa Al Zaffin - Executive Chairman of Dubai Aviation City Corporation. This is one of a number of recent awards recognizing our HSE practices and our commitment to safeguarding the well-being of all people who come into contact with our activities. ■



“Ensuring we have the best health and safety procedures in place is the responsibility of every single employee.”

**Nik Rowley**, Senior Manager, Quality, Health, Safety & Environment, Gulf

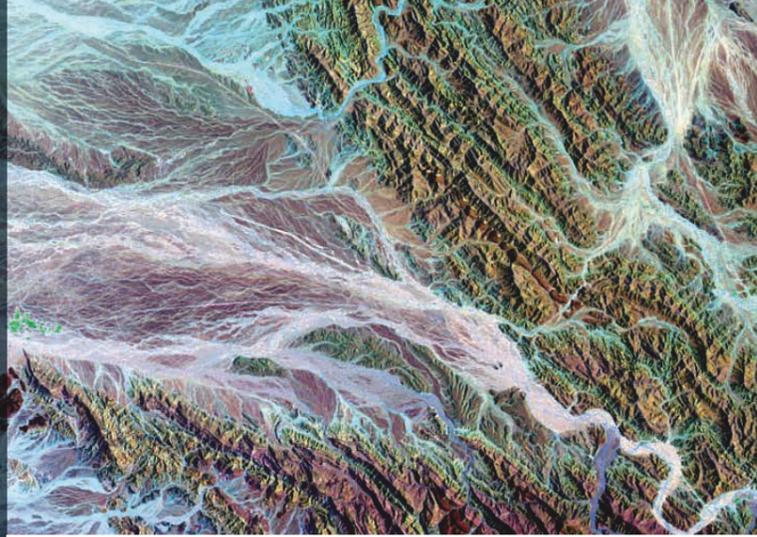
# 30 YEARS IN GIS

## A JOURNEY OF PASSION AND PERSEVERANCE

Khatib & Alami (K&A) is celebrating three decades at the forefront of Geographic Information Systems (GIS), forging a strong partnership with Esri, and delivering outstanding projects in the Middle East & Africa (MEA) region.

K&A's drive to embrace technology has been in its DNA since being founded in 1959 by two university professors. We believe strongly in the power of technology to help clients achieve their goals, improve lives and create a sustainable future.

This ethos led organically to our pioneering journey with GIS back in 1988, when Faisal Alami, K&A's Executive Vice President, called Jack Dangermond, Founder and President of Esri, and asked him to introduce GIS to a project in Oman.



From left to right: Faisal Alami, Jack Dangermond and K&A's Chairman & CEO, Najib Khatib

"Faisal's vision was to introduce GIS into engineering and urban planning in the early years, and he made it not only a great successful GIS activity, but he integrated it also as a practice;" explained Dangermond, at the 2018 ESRI Middle East and Africa User Conference in Dubai. "Khatib & Alami was the first major engineering company to be able to embrace this new technology."

This was the beginning of a deep and trusting relationship between K&A and Esri that led to K&A becoming the first GIS distributor in the MEA region, and then exclusive Platinum Partner for the territory in 2014.

Today, we are proud to be among the leaders in our field with our 200-strong team of GIS experts, having delivered more than 300 world-class projects to our clients, and our GIS know-how complements all aspects of our multidisciplinary service.



### 30 YEARS OF ACTIVE GROWTH

#### 1988

K&A lands its first GIS project, the Oman Land Information System Design Study for the Supreme Committee for Town Planning (SCTP).



#### 1990

K&A becomes the sole GIS distributor in Oman - followed by Lebanon - selling the software and providing professional training and reliable support.



#### 2005

The sheer number of projects in the GCC region prompted K&A to expand its GIS arm by setting up the GIS team in the United Arab Emirates, Qatar, Oman, Kingdom of Saudi Arabia (KSA) and Bahrain.



#### 2010

K&A becomes the first and only ESRI Gold Partner for the Middle East & Africa Region.



#### 2011

K&A becomes the first Schneider Electric Platinum Partner in the Middle East & Africa Region.



#### 2012

K&A receives the Geospatial World Excellence Award for Application of Geospatial Technology Facilities Information systems.



#### 2014

K&A becomes the first and only ESRI Platinum Partner for the Middle East & Africa region.



#### 2018

K&A obtains Microsoft co-sell status for its first geospatial solution Way+ within Microsoft One Commercial Partner Program.



### MICROSOFT CO-SELL STATUS OFFICIALLY ANNOUNCED!

**Khatib & Alami (K&A) has been selected among Microsoft's global Independent Software Vendors to obtain a Co-Sell Ready status for its first geospatial solution Way+ within the Microsoft One Commercial Partner Program.**

Powered by Kapcite, K&A's platform for smart solutions, Way+ innovative digital wayfinding and asset tracking solution has been listed on Microsoft AppSource and Azure Marketplace stores.

The GSI business development team is now engaging in strategic joint sales efforts with Microsoft

field sales teams and collaborating worldwide on targeted customer opportunities and account planning-related activities in the commercial, government, education, and retail sectors.

K&A surpassed rigorous selection criteria which included submitting customer references that demonstrated successful projects, meeting a performance commitment, and passing technology and sales assessments. The next step for GSI will involve moving to the Gold partner level to become Co-Sell Ready Gold Partner after passing another

advanced technical assessment and certification program. This will put us among the top 3% partners that receives a Gold Level certification and will allow exclusive access to training, premium support from Microsoft staff, Microsoft products licenses, and a comprehensive knowledge base.

The Microsoft One Commercial Partner Program will benefit K&A from utilizing Microsoft's first-hand resources while delivering in-class cloud solutions to customers with Microsoft's sales and marketing support. ■

#### 6 things to know about Way+

- Way+ is an integrated solution that extends into different modules including touch screen kiosks, mobile applications, and analytical dashboards.
- Way+ offers visitors turn-by-turn directions from and to any location within the building, such as location of functional departments, offices, parking, vending machines, ATMS, lifts,

- and other points of interest.
- Way+ uses trending technologies such as Augmented Reality (AR), paired with geolocation technology, to improve customers' experiences where they are looking for information.
- Way+ includes a 'chatbot' feature which is designed to simulate human-like conversation in real-time and recommends offers and services based on user preferences.

- Way+ offers comprehensive locational analytics for venues that witness high footfall human traffic such as shopping malls, campuses, hospitals, airports, embassies, public buildings and company headquarters.
- Way+ provides businesses with a deep understanding of how customers are interacting - explaining where, how and when visitors and staff are active.

## 2018 DR. ZUHEIR ALAMI WFEO AWARD FOR ENGINEERING INNOVATION UNVEILED



**Dr. William F. Ranson was announced winner of Dr. Zuheir Alami Innovation Award at the Global Engineering Congress in London.**

The 2018 Dr. Zuheir Alami WFEO (World Federation of Engineering Organizations) Award for Engineering Innovation was presented to an outstanding engineering talent, Dr. William F. Ranson from the United States of America, who has led numerous technology development projects for NASA and introduced innovative solutions for many governmental institutions and large corporations. The award ceremony took place in the presence of our CEO, Dr. Najib Khatib, and Principal Special Projects, Mr. Nasri AbdelNour. Dr. William F. Ranson

overcame international competition by developing an innovative and inexpensive technique for industrial strain measurements having been a chaired professor of mechanical engineering and a recognized expert in the area of stress fatigue analysis of mechanical systems. Additionally, Dr. Ranson has over 50 years of combined experience in management, business development, and R&D.

This event marked the 50<sup>th</sup> anniversary of the WFEO, an official partner of UNESCO representing more than 30 million engineers from 90 countries. Our sponsorship of the award is a reflection of our deep commitment to supporting innovation and professional development.



## K&A EARNS TITLE OF BIM EXPERT

**K&A honored with BIM award at RTA Innovation in BIM Summit in Dubai.**

Khatib & Alami (K&A) was recognized for its BIM expertise with a prestigious Kitemark award at the RTA Innovation in BIM Summit in Dubai.

We were awarded a BIM Level 2 Kitemark certification for Design and Construction from the British Standards Institution (BSI) during the event in November, which was part of The Big 5. Kitemark, one of the most recognized symbols of quality and safety that offers true value to consumers, businesses,

and procurement practices. Our BIM Level 2 Kitemark certification provides the most robust measurement of our delivery of BIM projects, as it certifies businesses for their diligence in design and construction, asset management, supply chain management, delivery of customer service excellence, and information security, in accordance with BS 1192:2007, PAS 1192-2:2013, BS 1192-4:2014, and PAS 1192-5:2015.

Ousama Faekk, UAE BIM Manager, says it is "fantastic news" K&A has achieved BIM Level 2 Kitemark certification.



"Through the attainment of this certification, we can confidently demonstrate to clients worldwide that we are bona fide leaders and experts in executing BIM projects because the Kitemark is an internally recognized and respected standard. This is fantastic news for Khatib & Alami."

## ENERGIZING POWER DISTRIBUTION IN SIERRA LEONE

**Khatib & Alami (K&A) proudly continues to support the Vision of the Government of Sierra Leone for the Electricity Distribution and Supply Industry.**

For two years, our Energy & Utilities team, with the financial support of the World Bank, has been successfully managing the Electricity Distribution and Supply Authority (EDSA), where tangible benefits have been delivered in a challenging environment towards achieving sustainable EDSA. After recently meeting with the Minister



of Energy in Sierra Leone, Energy & Utilities Senior Director, Bilal Abou El Hassan commented "We are looking forward to continuing our quest, working on losses reduction, revenue improvement, electrification, and capacity building. K&A is delighted with this opportunity of managing our planned and procured: Network Rehabilitation in Freetown and Deployment of digital platforms (AMI, ERP, GIS) which will enable the achievement of the financial stability and operational excellence of the distribution business."

## K&A LENDS SUPPORT TO OMAN CONFERENCE ON IMPROVING STANDARDS OF EDUCATION FOR ENGINEERS



**Khatib & Alami (K&A) showed its commitment to Oman by backing the 28<sup>th</sup> Arab Engineering Conference in Muscat.**

The theme of the three-day event hosted by the Oman Society of Engineers was 'Quality of Engineering Education and its Impact on Building Knowledge Based Economy in the Arab World', and K&A was proud to be a Gold Sponsor and keynote speaker.

In attendance from our Oman office was Natasha Yarvas, Business Development and Proposal Manager, Nasser Al Sayegh, Urban Planner, and Sami Mohammed, Senior Project Manager.

On the first day of the December conference, Natasha delivered a speech on the importance of engineers affiliating themselves with professional bodies such as the Oman Society of Engineers, drawing on her experience as a member of the Jordan Engineers Association.

We also got the opportunity to reinforce our ties in the Sultanate and present K&A to a wider audience through our sponsorship and networking opportunities.

To honor our support of the conference, K&A was presented with a trophy and certificate from the Oman Society of Engineers.

Natasha said: "The conference was very informative and the speakers were excellent. New ideas were introduced and discussed in relation to the education and training of engineers, and the struggles we face as engineers in the Arab world, especially graduate engineers."

## THE FUTURE GENERATION IS READY TO HIT THE ROAD

**High school students learning road safety the fun way as part of Khatib & Alami's (K&A) mission to safeguard the future of our youth.**

With their ability to quickly transport people from one place to another, cars have made our lives much more convenient; however, many lives have been lost in traffic accidents.

As part of our CSR program, and for the occasion of World Day of Remembrance for Road Traffic Victims, our Marketing & Communication department organized an awareness workshop for students in Beirut.

Hosted by Ali Ayoub and Raghid Kassem, from the Planning and Traffic department, they shared the Keys to Safe Driving with over 150 high school pupils from Khaled Ben Walid College - Makassed and Saint Mary's Orthodox College.

Despite road safety being a very serious issue, we made sure the sessions were interactive so that students could have fun as they learned about the dangers of texting whilst driving and the importance of understanding traffic signs.

Thanks to the planning and effort put in by everyone, the students went away having had a lot of fun and, most importantly, raised their knowledge about staying safe on the road.



## #CLEANUPUAE

**A team of around 50 very enthusiastic Khatib & Alami (K&A) colleagues took part in an event to clear up all the rubbish from a plot of desert in Dubai, as part of the 17<sup>th</sup> cycle of the Clean Up UAE Campaign.**

Run by the Emirates Environmental Group (EEG), the event provided a great opportunity to demonstrate the one-team spirit and commitment of K&A in support of the environment.

In total 'Clean up UAE' netted 32.5 tons of waste from five emirates. In Dubai alone, K&A colleagues, together with around

2,000 other volunteers, collected about 25 tons of waste from an 18 km<sup>2</sup> area.

The Dubai clean-up was held in association with Dubai Municipality and under the patronage of the Ministry of Economy. Our team was honored to meet the Minister of Economy, His Excellency Sultan Bin Saeed Al Mansouri, who came to give his time to this important campaign.

Our colleagues were equipped with cotton gloves and biodegradable plastic bags as they collected the trash in the desert, and were proud to be able to take proactive steps to protect and preserve Dubai's ecosystem.



## KHATIB & ALAMI JOINS THE INTERNATIONAL PROJECT FINANCE ASSOCIATION



Khatib & Alami (K&A) has become a member of the International Project Finance Association (IPFA), making it part of a global community of project finance and infrastructure experts, with the participation of more than 500 organizations.

K&A has joined the Middle East Council of the IPFA and will be

represented by Helena De Flaviis (pictured left), Senior Director of Corporate Development.

As part of the IPFA's network, K&A will be able to forge closer ties with the project finance community to better support its infrastructure advisory services and the co-development of attractive infrastructure projects to further attract investments into the region.

K&A's IPFA membership further supports its growth in the infrastructure financing space following its recent decision to change the jurisdiction of its holding company - K&A Holding - from Lebanon to Singapore, putting it at the heart of a growing ecosystem of engineering, construction, technology, and infra-financial services companies.

"The International Project Finance

Association is considered one of the best forum globally in its category," says Helena. "Our association with it makes perfect sense given the business we are building in infrastructure advisory and development. It is an honor to be joining the Middle East Council on behalf of Khatib & Alami, and I'm looking forward to playing an active part in the Council to exchange experiences, best practice, and innovative ideas to help more projects become a reality in the region."

Other members of the Middle East Council include the National Bank of Abu Dhabi, National Bank of Kuwait, Ashurst, SMBC, SNC-Lavalin Capital, Abu Dhabi Department of Energy, ACWA Holding, PwC, George Grant Associates and Herbert Smith Freehills.

## DIGITAL NETWORKING AT THE EUROPEAN UTILITY WEEK

As a key player in the smart energy community, Khatib & Alami (K&A) took part in European Utility Week (EUW) in Vienna, including a presentation on the Smart Grid Journey in Saudi Arabia by Bilal Abou El Hassan, Energy & Utilities Senior Director, and Walid Abou Chacra, Electricity Segment Manager.

The topic included a look at K&A's implementation of a nationwide Enterprise Geographic Information Systems (GIS) solution for National Grid-Saudi Arabia. In 2018, this important project won a Special Achievement in GIS (SAG) award from Esri, the global leader in spatial analytics.

Bilal told delegates: "The Energy and Utilities industry is ripe for transformation from innovative technologies and business models alike. With the explosion in data, winners in this industry will be those willing and able to embrace this change."

For the last few years, K&A has helped National Grid-Saudi Arabia

invest in geospatial technologies as a catalyst for transforming their operations and responding to the digital era. According to Walid, these solutions provide a new level of situational awareness, workforce management and communication flexibility.

"Geospatial solutions are offering many benefits to help the client achieve its strategies and build on its core areas of expertise," he said. "We took enormous pride in showcasing this project and the digitalization strategies, solutions and technologies that are being developed and deployed by our team."

Digital transformation has become an important topic which has seen rapid advancement in the energy industry. To remain at the forefront of change, K&A's Energy & Utilities is expending significant effort to emerge as an international, nimble, innovative and consultative business partner.



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- Healthcare
- Educational
- Special Facilities
- Sports & Recreation

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- Urban Planning & Design
- Sectorial & Regional Planning
- Landscape Architecture

### Interior Design & FF&E

## INFRASTRUCTURE

### Transportation

- Roads & Highways
- Airports
- Rail & Mass Transit
- Bridges
- Ports
- Transport Planning & Traffic Engineering

### Water & Environment

- Water Resources & Drainage
- Water Treatment
- Urban Hydraulic
- Dams & Hydraulic Structures
- Environmental Studies & Waste Management

### Geotechnical & Heavy Civil

- Foundations & Earthworks
- Heavy Civil Engineering

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- Consultancy
- Sustainability

## ENERGY

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- Oil & Gas
- Energy & Utilities

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- Solutions
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