

ISSUE 02 - 2026

# INSIDE K&A

Khatib & Alami Newsletter

BUILT ON WHAT MATTERS







## FOREWORD

# A NOTE FROM OUR CHAIRMAN AND CEO

There is a question that has stayed with me throughout my career: what is engineering actually for?

The technical answer is straightforward. We design and deliver infrastructure – roads, bridges, water systems, buildings, cities. But the more honest answer is that we do those things because communities depend on them. People need clean water, safe roads, buildings that work, cities that function. Infrastructure is the means, but improving lives is the point. That belief runs through everything in this edition.

In Iraq, two articles tell a story that is, at its core, about the same thing: what happens when cities and communities are given the infrastructure they need. The Al-Jadriya Bridge will create a new crossing over the Tigris, reducing peak-hour travel times for thousands of daily commuters and reconnecting parts of Baghdad that have long been separated. The Basra Emergency Water Plan takes a longer view – a comprehensive strategy designed to provide reliable water supply to a city whose population is projected to reach 7.5 million by 2045, combining treatment, desalination, transmission and storage into a single coordinated framework. These are not routine projects. They are the kind of work that determines the quality of life in a city for generations.

In Saudi Arabia, the Riyadh City Southern Ring Water Transmission System – named Best Infrastructure Project of the Year at the Construction Innovation Awards KSA 2026 – demonstrates what delivery at scale looks like: 300 kilometers of transmission infrastructure, 1.7 million cubic meters of desalinated water per day, and 5.6 million safe working hours without a lost-time injury. In Oman, our appointment to supervise construction of A’Thuraya City

continues a relationship with the Sultanate that now spans more than fifty years.

This edition also features two pieces of thinking I would encourage you to read carefully.

Dr. Houssam AlMasri makes a strong case that ICT is no longer a finishing layer applied to completed designs – It is a core discipline that must be integrated from day one, alongside architecture and engineering. And our sustainability team sets out how the Safaga Port Terminal demonstrates that the path to net zero begins with better engineering decisions made earlier in the design process.

I also want to highlight our partnership with Ajman University to establish an endowed chair in Artificial Intelligence and Machine Learning. K&A was founded by two professors more than six decades ago. Investing in knowledge and the next generation of talent is at the core of what makes K&A the company it is.

Finally, I want to acknowledge something that sits alongside the project work but is no less important to K&A. Across Lebanon, Saudi Arabia, and Egypt, our colleagues supported blood donation campaigns, provided medical equipment to displaced families, and distributed gifts to children living in temporary shelter. The impact may be small in the context of the programs we deliver, but not to the people they reached.

Sustainable development, in the end, is about people. This edition is a reminder of that.

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

### ***Built on What Matters***

*Featuring A’Thuraya City, the cover reflects the central idea that engineering is not only about what we build, but why we build it. As a major mixed-use development in Oman, A’Thuraya City is a reminder that infrastructure and development matter most when they are built around people.*





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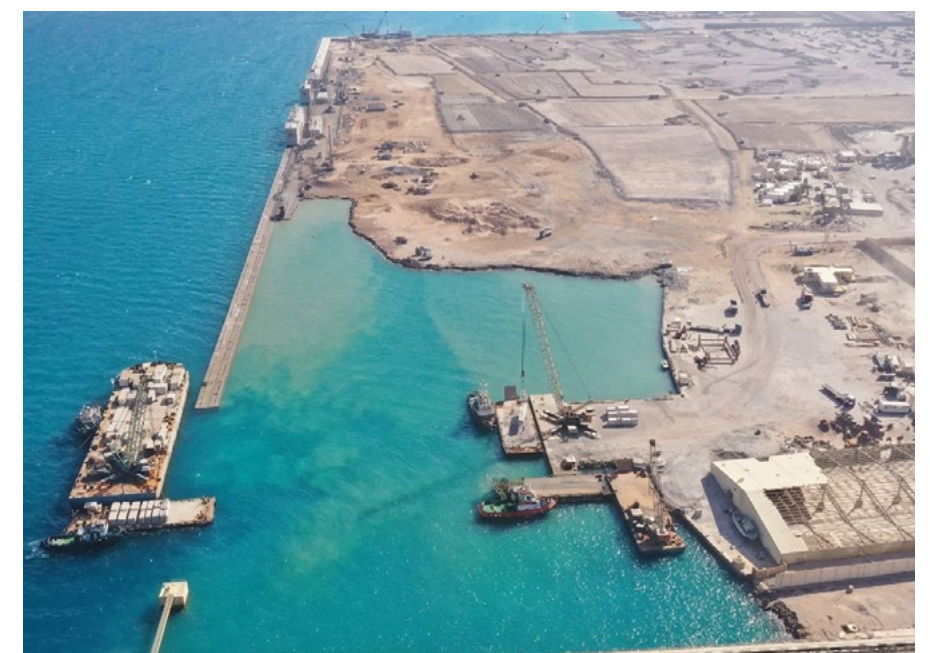
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**COMMUNITY IMPACT | GLOBAL**

Supporting Communities Across  
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INTERIOR DESIGN & FFE | EGYPT

# COORDINATING COMPLEXITY: THE STORY BEHIND AN AWARD- WINNING HOSPITALITY DESTINATION







# PROJECT AT A GLANCE



**Award**  
Commercial Project of the Year at the Big 5 Egypt Impact Awards 2026



**Location**  
New Administrative Capital, Egypt



**Development**  
Raffles & Fairmont Hotels Cluster



**Key Features**

- Egypt's first Raffles Hotel
- Fairmont Hotel
- Africa's tallest tower



**K&A Role**

- Design Management
- Design Review
- FF&E & OS&E Management
- Stakeholder Coordination
- Construction Supervision

The Raffles and Fairmont Hotels Cluster in Egypt's New Administrative Capital has been named Commercial Project of the Year at the Big 5 Egypt Impact Awards 2026. The recognition reflects the multidisciplinary coordination, technical leadership, and integrated project delivery behind one of the region's most complex hospitality developments.

Delivering a landmark hospitality development requires aligning multiple disciplines around a shared vision while maintaining



**"OUR ROLE WAS TO KEEP DESIGN, DELIVERY, AND OPERATIONAL REQUIREMENTS ALIGNED WHILE ENSURING EVERY DECISION SUPPORTED THE PROJECT'S LONG-TERM VISION."**

*Mariam Nagi*  
Project Manager

quality, program, and brand requirements from concept through construction. The Raffles and Fairmont Hotels Cluster reflects the level of coordination and technical leadership required to deliver a project of this complexity.

Located in the Central Business District of Egypt's New Administrative Capital, the development comprises Egypt's first Raffles Hotel within the 385-meter Iconic Tower—Africa's tallest building—and the Fairmont Hotel in the neighboring Crescent Tower. Together, they span more than 505,000 m<sup>2</sup>, creating a destination at the heart of one of the Middle East and Africa's most significant urban developments.

## TURNING GLOBAL DESIGN INTO BUILDABLE REALITY

The interior concepts were developed by Richmond Designers and Areen Designers, while Accor established the operational and brand requirements for both hotels. Transforming that vision into a project that could be successfully delivered required continuous alignment throughout design and construction.

Khatib & Alami (K&A) led the project's design management, overseeing design reviews, stakeholder coordination, vendor management, FF&E and OS&E design management, site coordination, and construction

supervision. Working closely with international designers while maximizing the use of qualified local suppliers and craftsmanship, K&A preserved the original design intent and adapted solutions to local construction practices and operational requirements, ensuring the project met the expectations of both hotel brands without compromising delivery.

## COORDINATING MORE THAN 500 STAKEHOLDERS

Projects of this scale are defined as much by coordination as by design. More than 500 stakeholders contributed to the project's delivery, requiring continuous alignment across design, ■





engineering, procurement, construction, and operations at every stage of implementation.

Digital collaboration played a central role in delivery. BIM-enabled coordination supported multidisciplinary reviews, allowing the project team to identify and resolve more than 1,000 design issues before construction. This reduced clashes, minimized on-site modifications, improved coordination across disciplines, and helped maintain program certainty as the project progressed.

**“THE CHALLENGE WAS NOT SIMPLY DELIVERING EXCEPTIONAL INTERIORS—IT WAS MAINTAINING THE INTEGRITY OF THE DESIGN THROUGHOUT CONSTRUCTION WHILE MEETING DEMANDING OPERATIONAL REQUIREMENTS. ACHIEVING THAT BALANCE REQUIRED CONTINUOUS COORDINATION FROM CONCEPT TO COMPLETION.”**

*Michel ElKhoury - Director of Interior Design*



#### RESULTS AT SCALE

Through structured governance, proactive stakeholder engagement, and digital project controls, the team reduced project costs by 25%, accelerated delivery by 20%, and recorded more than one million safe working hours without a Lost Time Injury (LTI). These outcomes reflect the value of integrated project delivery in maintaining quality, program certainty, and operational performance throughout construction.

As a key destination within Egypt's New Administrative Capital, the Raffles and Fairmont Hotels Cluster contributes to the city's growing hospitality and commercial landscape. The project supports the capital's continued development as a destination for business, tourism, and investment, reflecting the scale, coordination, and technical expertise required to deliver complex developments of this nature. ■

AWARD | KSA

## RIYADH SOUTHERN RING WATER PROJECT WINS TOP INFRASTRUCTURE AWARD

The Riyadh City Southern Ring Water Transmission System has been named Best Infrastructure Project of the Year at the Construction Innovation Awards KSA 2026, recognizing a landmark project that is strengthening water security for Saudi Arabia's capital.

Delivered under the supervision of the Water Transmission Company (WTCO), the project represents one of Saudi Arabia's largest water infrastructure investments.

Spanning nearly 300 kilometers, the transmission system is capable of conveying up to 1.7 million cubic meters of desalinated water per day, supporting capital city's expansion, welfare, economic growth, and strategic developments, including Qiddiya.

#### SUPPORTING THE CAPITAL'S FUTURE GROWTH

As Riyadh continues to expand, investment in strategic water infrastructure is essential to meeting rising demand and ensuring long-term security of supply.

The Southern Ring Water Transmission System forms a critical component of the capital's water network, enabling the efficient transfer of desalinated water across the city and providing the capacity needed to serve future communities, businesses and

economic developments. Khatib & Alami (K&A) worked alongside WTCO to support the delivery of the project, helping manage the technical, operational and logistical challenges associated with infrastructure of this complexity.

#### DELIVERING EXCELLENCE AT SCALE

The project brought together engineers, inspectors, project managers, site supervisors, and site teams to maintain design integrity and manage

complex construction activities. In addition to its technical achievements, the project reached a significant health and safety milestone, recording 5.6 million safe man-hours without a Lost Time Injury across works involving more than 2,000 people. "This recognition reflects the dedication of the people behind the project, who worked together to overcome challenges and deliver excellence for our partners," said Maher Kahil, Vice President - Riyadh. ■





# IN CONVERSATION WITH DANY GHANDOUR

## Leading the Next Evolution of PMC and Facilities Management



*Following his return to Khatib & Alami (K&A) as Vice President - Project Management Consultancy (PMC) and Facilities Management (FM), Dany Ghandour brings more than 27 years of regional experience, including over two decades with the company. In this interview, he reflects on his return to K&A, the lessons that have shaped his leadership approach and priorities for strengthening the company's PMC and FM services.*

**You recently returned to K&A after four years away. What inspired your decision to come back, and what motivates you most about this new chapter?**

Returning to K&A after four years away feels like a true homecoming. I spent the first 22 years of my career in this firm, where I developed my professional identity, knowledge base, and values. My deep connection to K&A, its culture of growth, and the professionalism of its leadership and shareholders made the decision to come back an easy one.

What motivates me most about this new chapter is the opportunity to lead the PMC and FM sectors at a corporate level. K&A's vast multidisciplinary talent pool, supported by strong digital capabilities, creates a collaborative ecosystem to drive these sectors forward across all geographies. Joining the Executive Office also allows me to apply my experience and contribute directly to the company's strategic growth and long-term success.

**Having led complex programs across the region, what has been the most valuable lesson you've learned about delivering successful projects?**

Over the past 27 years, managing mega and gigaprojects across diverse cultures has profoundly shaped my leadership philosophy. Navigating complex financial, legal and political landscapes has taught me that successful delivery requires strategic alignment, swift conflict resolution, leading by example, cultivating talent through empowerment, and taking decisive and proactive action under pressure.

The most valuable lesson, however, is that project success depends greatly on the strength of the client relationship. Delivering complex programs is not only about managing contracts. It requires moving beyond a traditional service-provider relationship and building a trusted partnership. By building mutual trust and treating clients as partners, we can drive even the most challenging initiatives forward.

**K&A has brought Project Management Consultancy and Facilities Management under one leadership. What opportunities does this create for our clients and the business?**

Bringing Project Management Consultancy and Facilities Management under unified leadership bridges the gap between project delivery and long-term operations.

For clients, this means incorporating operational requirements earlier in the design and construction process, optimizing whole-life costs and ensuring a seamless handover.

For K&A, this integration strengthens our role as a strategic partner to clients. It creates opportunities for multi-year revenue streams and strengthens K&A's position on major regional projects. At the same time, it helps protect clients' long-term investments while enabling us to support assets throughout their lifecycle.

**Clients today expect more than successful project delivery—they expect long-term value. How is this changing the role of Project Management Consultancy, and how is K&A responding to these expectations?**

Clients increasingly judge projects not only by whether they are delivered on time and within budget, but also by the lasting value they create through operational performance, user satisfaction, sustainability, resilience and return on investment.

As a result, the role of PMC is evolving beyond managing delivery. K&A supports clients in aligning projects with business objectives, enabling digital transformation,

addressing risks earlier, and supporting asset readiness and operational success.

This requires integrating disciplines such as design management, technology, sustainability, change management and operational planning throughout the project lifecycle.

By focusing on measurable outcomes rather than outputs, we can help clients make better-informed decisions, strengthen stakeholder confidence and ensure investments continue to deliver long-term business and community value.

**Looking ahead, what are your priorities for strengthening K&A's PMC and FM services, and where do you see the greatest opportunities for growth?**

Looking ahead, we aim to position K&A as one of the region's most recognized and trusted leaders in PMC and FM, distinguished by technical excellence, innovation and a strong understanding of client needs. Our priority is to strengthen these capabilities by delivering integrated, technology-enabled services that create value across the asset lifecycle, from strategy and design to construction, operations and optimization.

The greatest growth opportunities lie in digital transformation, AI-enabled project controls, asset management, smart buildings, operational readiness and lifecycle advisory. By combining deep project delivery expertise with operational insight, K&A is well positioned to be the partner of choice for clients seeking sustainable outcomes and long-term asset value. ■



# K&A SUPPORTS DELIVERY OF SEVEN ABHA AND JAZAN IN SAUDI ARABIA



As Saudi Arabia advances its ambitions for world-class leisure and entertainment, Khatib & Alami (K&A) is supporting SEVEN's nationwide program through integrated project management, digital delivery and an embedded culture of safety across SEVEN Abha and Jazan.

SEVEN Abha represents a major milestone in Saudi Entertainment Ventures' (SEVEN) nationwide program. One of 14 entertainment destinations planned across the Kingdom, the SAR 1.5 billion development spans more than 91,000 m<sup>2</sup> of built-up area, bringing family entertainment, immersive experiences and themed public spaces inspired by Aseer's landscape and cultural identity. The destination opened on August 5 under the patronage of His

Royal Highness Prince Turki bin Talal bin Abdulaziz, Governor of Aseer and Chairman of the Aseer Development Authority.

As Project Management Consultant (PMC), K&A managed the project from design and procurement through construction, testing and commissioning, leading to handover. K&A served as the central point of integration between SEVEN's consultants, contractors, and specialists, aligning teams around common standards for quality, delivery, and safety.

"SEVEN Abha was a complex project delivered at pace," said Dany Ghandour, Vice President - PMC & Facilities Management.

"Our role was to keep decisions clear, teams aligned and delivery moving through to opening."

## MANAGING DELIVERY THROUGH DIGITAL COORDINATION

K&A established a fully integrated digital delivery system built around a Common Data Environment, with Aconex and Autodesk Construction Cloud supporting secure information exchange and real-time collaboration.

BIM strengthened coordination, while laser scanning, 4D simulation and Augmented Reality provided visibility across design, construction and commissioning. These capabilities helped teams work more efficiently, identify risks earlier and make informed decisions. K&A coordinated 150 contractors and oversaw more than 1.6 million workflow actions, 165,000 document records and 46,000 formal communications, helping sustain program momentum.



SEVEN Abha achieved LEED Gold, with sustainability requirements integrated into design, material selection and construction methodologies. Proactive HSSE supervision also contributed to more than 15 million safe working hours.

"This project is the result of a collective effort, with every person involved contributing to its successful delivery. The K&A team played a central role alongside the client in turning that vision into reality," added Marwan Abbas, Project Director.

K&A's work with SEVEN also extends to the Jazan entertainment destination, where the scale and technical demands of construction placed a strong emphasis on integrating safety into day-to-day project delivery.

## SAFETY EMBEDDED IN DELIVERY

At SEVEN Jazan, works included the excavation of more than 108,000 m<sup>3</sup> of soil, the placement of over 77,000 m<sup>3</sup> of concrete and the installation of

4,287 tonnes of structural steel. Specialist facilities introduced additional technical complexity, from long-span cinema structures and advanced acoustic systems to climate-controlled indoor golf facilities and electrically powered karting attractions.

Rather than treating safety as a separate workstream, health, safety, security and environmental considerations were integrated into project planning and day-to-day decision-making. Regular site inspections, workforce engagement, digital reporting tools and proactive risk management strengthened oversight across the project. K&A also delivered more than 51,000 hours of safety training, complemented by toolbox talks, emergency drills and workforce awareness initiatives.

These measures helped the project achieve more than five million safe man-hours without a lost-time injury and maintain a Total Recordable Incident Rate (TRIR) of zero across a peak workforce of 1,500 people. ■





# RAISING SAFETY STANDARDS ACROSS SAUDI ARABIA'S HOUSING SECTOR

As Saudi Arabia accelerates the delivery of new housing and community developments, maintaining high standards of health, safety and wellbeing is essential to successful project delivery. Through its long-standing collaboration with the National Housing Company (NHC), Khatib & Alami (K&A) is helping strengthen safety culture across major residential developments, supporting safer workplaces and better project outcomes.



## STRENGTHENING SAFETY ON SITE

Effective health and safety management requires a culture that prioritizes risk awareness, proactive planning and shared accountability across all project stakeholders.

As part of its ongoing support to NHC, K&A recently participated in a health, safety and environmental (HSE) awareness initiative that brought together project teams, contractors and consultants to discuss high-risk construction activities, address

common site challenges and share practical approaches to risk prevention.

Led by Riyadh Business Development team and represented by Ziad Khatib, Director of Business Development & Proposals, as well as Saleh Ali Rawdhan, Associate Principal – Business Development, the initiative reinforced the importance of identifying risks early, implementing preventive measures, and encouraging closer coordination throughout the construction lifecycle.

## RECOGNITION THAT REFLECTS LONG-TERM PERFORMANCE

K&A's commitment to embedding health and safety principles has also received international recognition. The Al Sadan Project, delivered with NHC, was awarded the Distinction grade at the International Safety Awards 2026, presented by the British Safety Council. As the program's highest level of recognition, the Distinction grade recognizes organizations that demonstrate exceptional leadership in occupational

health, safety, and wellbeing. The award reflects four years of collaboration, underpinned by consistent HSE practices and effective coordination throughout project delivery.

"Safety is not achieved through individual initiatives but through the way projects are planned, delivered, and managed every day. Embedding HSE into every stage of delivery creates safer workplaces and stronger project outcomes," said Nik Rowley, Director – Quality & HSE.

As residential development continues across the Kingdom, maintaining high standards of health and safety will remain fundamental to delivering projects that protect people while supporting resilient, high-quality communities. ■



**"EMBEDDING HSE INTO EVERY STAGE OF DELIVERY CREATES SAFER WORKPLACES AND STRONGER PROJECT OUTCOMES."**

*Nik Rowley,  
Director – Quality & HSE*





PORT | EGYPT

# THE ENGINEERING BEHIND NET ZERO

The Safaga Port Multi-Purpose Terminal in Egypt demonstrates that reducing carbon begins at the earliest stage of design.

As the infrastructure sector works toward lower-carbon development, sustainability is increasingly evaluated through whole-life asset performance and carbon metrics. Clients now expect projects that reduce embodied and operational emissions, optimize energy efficiency, improve operational efficiency, and strengthen climate resilience.

Meeting these benchmarks requires moving beyond component-level green technologies to early-stage, integrated engineering decisions. Optimal outcomes depend on evaluating material selection, thermal performance, climate adaptation, and advanced digital analysis from day one.

The Safaga Port Multi-Purpose Terminal illustrates this approach. Targeting LEED v4 Silver certification and engineered in alignment with LEED Zero Energy standards, the project integrates multidisciplinary design and lifecycle assessment (LCA) to drive decarbonization while securing long-term operational efficiency.

## PROJECT AT A GLANCE

 **Location**  
Safaga, on Egypt's Red Sea coast

 **Scale**  
800,000 m<sup>2</sup> with a 1 km quay

 **Capacity**  
450,000 containers and 6 million tonnes of cargo annually

 **Purpose**  
Strengthening Egypt's maritime and logistics network

 **K&A Role**  
Multidisciplinary advisory, design and project management

 **Stakeholders**  
16+ governmental and operational entities, including the Ministry of Transport, Red Sea Ports Authority and Abu Dhabi Ports Group

 **Completion**  
February 2025

 **Targets**  
LEED v4 Silver and LEED Zero Energy

 **Key outcomes**  
14.3% lower embodied carbon  
30% lower energy demand  
40% lower potable water use  
90% of construction waste diverted from landfill

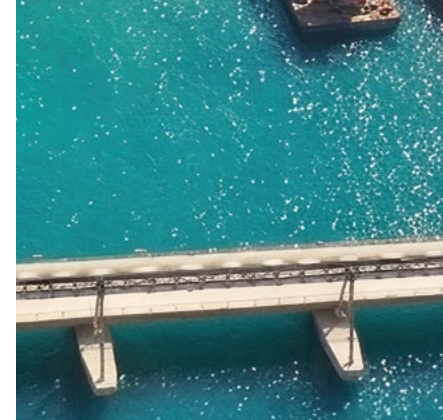




### EMBEDDING SUSTAINABILITY INTO EVERY DESIGN DECISION

Khatib & Alami (K&A) applied a whole-life design framework to the project, targeting both embodied and operational carbon across every stage of development. By combining lifecycle assessment, cross-disciplinary engineering, and digital analytics, the design team compared alternative strategies, optimized material specifications, and maximized environmental performance well before construction commenced.

To mitigate embodied carbon without compromising structural integrity or longevity, the project prioritized low-carbon concrete rich in supplementary cementitious materials, high-recycled-content reinforcing steel, and circular procurement models. These interventions yielded a 14.3% reduction in embodied carbon across general infrastructure works, alongside a 14–17% reduction in Global Warming Potential (GWP) for the administration and welfare facilities.



As Waseem Al Azzeh, K&A Global Head of Sustainability, explains: “The most effective sustainability strategies are often invisible. They are embedded directly into the engineering decisions that generate value long after construction is complete.”

### DESIGNING FOR LONG-TERM PERFORMANCE

The facility’s long-term performance relies on an integrated engineering approach that includes high-performance building envelopes, energy-efficient mechanical systems, renewable energy integration, smart lighting controls, and advanced water conservation measures. Together, these systems lower operational energy demand by approximately 30% and reduce

potable water consumption by 40%, significantly decreasing resource reliance while safeguarding operational continuity.

### BUILDING CLIMATE RESILIENCE THROUGH DIGITAL ENGINEERING

To future-proof the asset against evolving environmental pressures, the design team conducted Climate Risk and Vulnerability Assessments (CRVA). The resulting strategy addresses rising temperatures and water scarcity through passive design principles, photovoltaic power generation, and smart water and energy monitoring.

This data-driven approach was supported by advanced digital engineering workflows. Building Information Modeling (BIM), dynamic energy modeling, environmental simulations, and early-stage lifecycle assessment enabled multidisciplinary teams to evaluate design trade-offs, improve coordination, and make informed decisions before site mobilization.



### DELIVERING MEASURABLE OUTCOMES

As expectations around net-zero infrastructure continue to evolve, demonstrating measurable sustainability performance is becoming as important as meeting functional requirements. The Safaga Port Multi-Purpose Terminal demonstrates how holistic engineering can drive decarbonization while preserving operational efficiency and asset resilience.

Rather than relying on fragmented green add-ons, the project unifies lifecycle assessment, integrated engineering, and digital delivery within a cohesive framework, resulting in infrastructure engineered for long-term viability and adaptive performance. ■



# BUILDING A MORE RELIABLE WATER SUPPLY FOR MILLIONS IN BASRA



For generations, the Shatt Al Arab has been central to life in Basra, supporting communities, agriculture and industry across southern Iraq. Today, however, reduced river flows, prolonged drought and increasing seawater intrusion are placing unprecedented pressure on both the quality and availability of freshwater resources.

To help address these challenges, Khatib & Alami (K&A) is working with the Basra Governorate to develop the Basra Emergency Water Plan, a comprehensive, long-term strategy designed to strengthen water security and meet the needs of a rapidly growing population through 2045.

The governorate-wide program brings together water treatment, desalination, transmission infrastructure and strategic storage into a single coordinated framework, helping ensure a more resilient and reliable water supply for millions of residents.

## PLANNING FOR FUTURE DEMAND

Basra's population and water requirements are expected to grow significantly over the coming decades, with the population projected to reach approximately 7.5 million by 2045. Water demand is also expected to more than double over the same period, creating a substantial gap between future supply and demand if additional infrastructure is not developed.

K&A's work with the Basra Governorate began in 2019 through the development of a water contingency master plan. The Basra Emergency



Water Plan builds upon that foundation, combining detailed technical analysis with a long-term vision for sustainable water provision across the governorate.



## EXPANDING AND DIVERSIFYING WATER SOURCES

A key objective of the program is to increase treatment capacity while creating a more diverse and resilient portfolio of water sources.

Across 20 treatment locations, total design capacity is planned to increase by almost 50%, supported by a combination of conventional treatment plants, reverse osmosis facilities, upgrades to existing assets and new infrastructure.

Desalination will play a particularly important role in addressing rising salinity levels. One proposed seawater desalination facility alone is planned to provide one million cubic metres of water per day, creating a significant new source of potable water while reducing reliance on increasingly stressed freshwater supplies.

"Creating a dependable water system is not just about additional treatment capacity," said Samer Husseiny, Associate

Principal – Water Supply. "By planning the infrastructure as one connected system, our team can align decisions with demand, source reliability and operational requirements to create a more resilient network."

## CONNECTING WATER INFRASTRUCTURE ACROSS THE GOVERNORATE

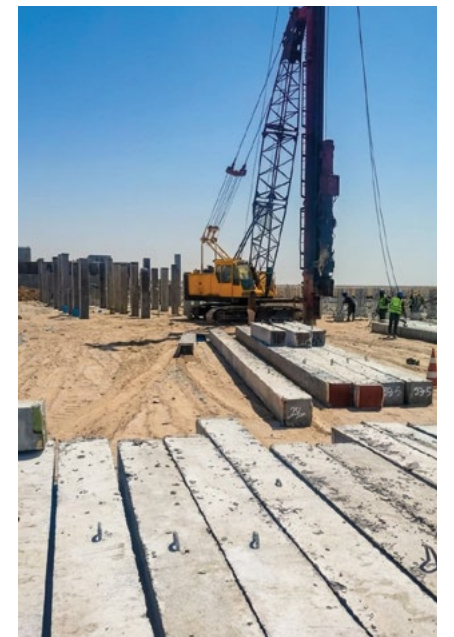
Increasing production capacity is only part of the solution. Water must also be transported efficiently to the communities and industries that depend upon it.

The plan includes more than 1,200 kilometres of transmission pipelines, creating an integrated network that links existing, proposed and under-construction infrastructure throughout the governorate. The system will connect treatment facilities, storage assets and distribution networks serving key population centers, including Al-Faw, Al-Qurna, Al-Zubair and Abu Al-Khaseeb.

By strengthening connectivity across the network, the program aims to improve

**"BY PLANNING THE INFRASTRUCTURE AS ONE CONNECTED SYSTEM, OUR TEAM CAN ALIGN DECISIONS WITH DEMAND, SOURCE RELIABILITY AND OPERATIONAL REQUIREMENTS TO CREATE A MORE RESILIENT NETWORK."**

*Samer Husseiny,*  
Associate Principal –  
Water Supply



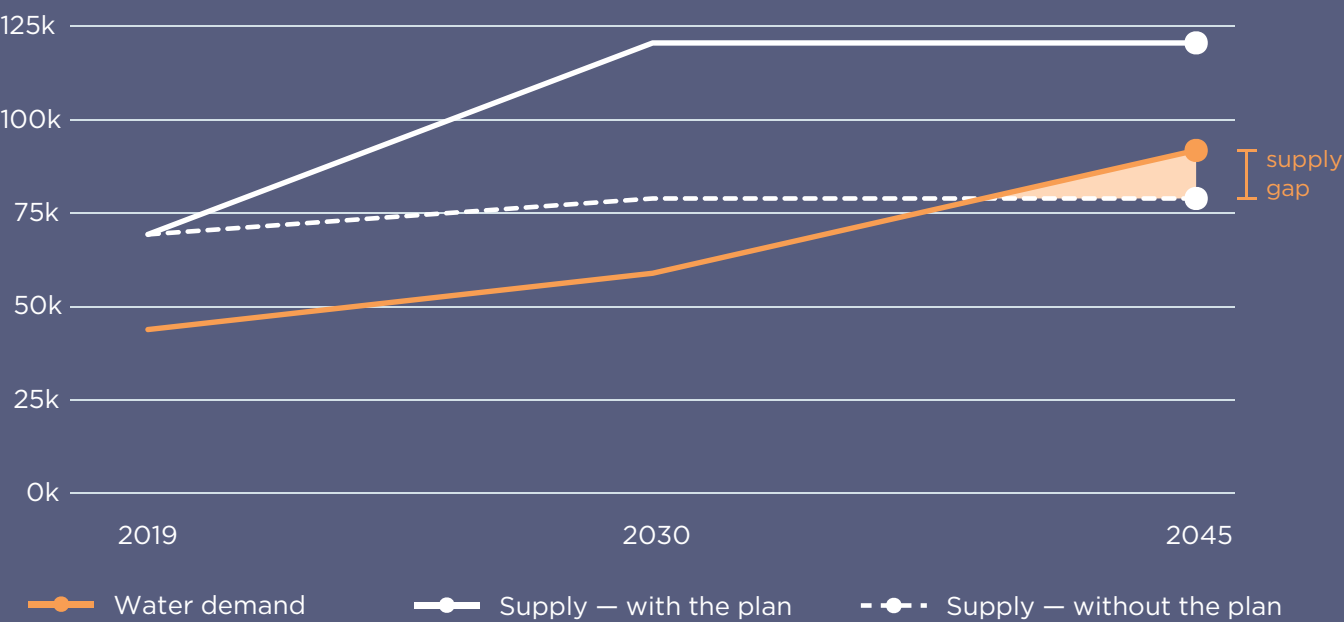


# BUILDING WATER RESILIENCE IN BASRA

## The Basra Emergency Water Plan by the Numbers

### The Challenge Ahead: A city doubling in size, a river running short

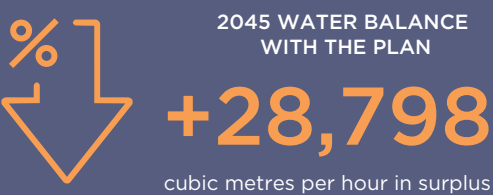
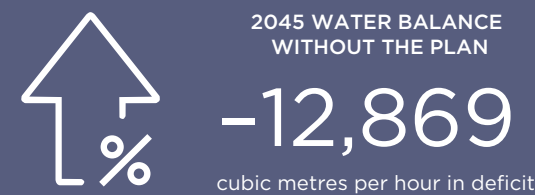
Peak water demand vs. supply capacity (m<sup>3</sup>/hr), 2019–2045



#### Without Action

demand overtakes supply before 2045.

A major part of the existing water supply is served by compact treatment plants that are unable to reliably achieve the targeted treated water quality.



### THE PLAN AT A GLANCE

#### POPULATION SERVED

**3.6M → 7.5M**  
residents by 2045 (from 2019)

#### TREATMENT CAPACITY

**69,292 → 103,667**  
m<sup>3</sup>/hr, existing to proposed

#### TREATMENT SITES

**20** across  
the governorate, one coordinated system

#### ONE CONNECTED NETWORK

Transmission lines, Ø 300 mm and above

1,207 km Total



Existing Proposed Under construction

operational flexibility, support future growth and enhance continuity of service throughout the region.

### STRENGTHENING RESILIENCE THROUGH STRATEGIC STORAGE

The program also incorporates strategic water storage to provide additional resilience across the system.

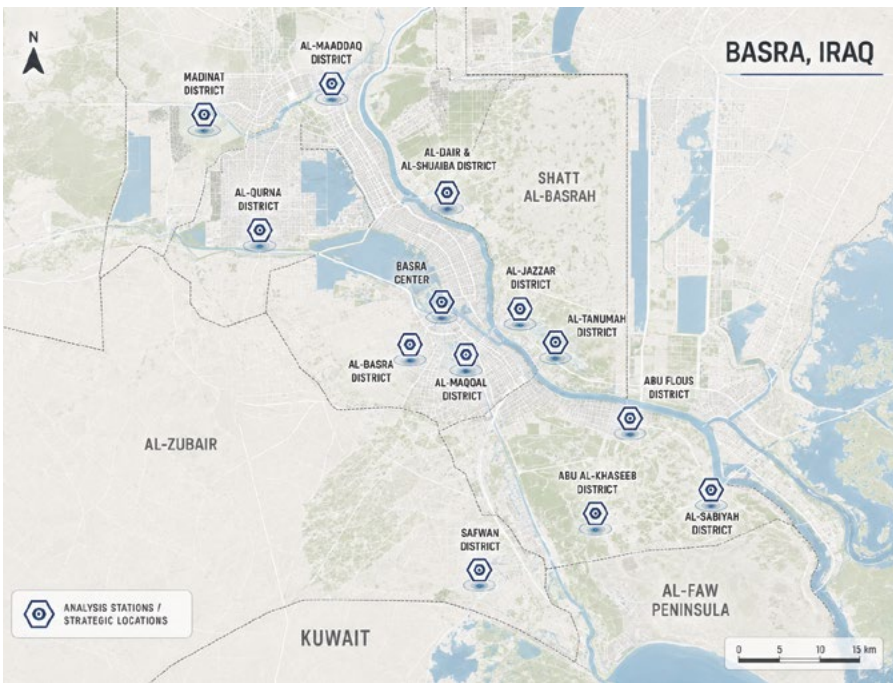


Strategic storage facilities help balance fluctuations in demand, support planned maintenance activities and provide reserve capacity during emergencies, infrastructure failures or water quality incidents. K&A's team evaluated storage requirements using a range of factors, including population served, source reliability, transmission distances and access to alternative supplies, identifying locations where additional storage would deliver the greatest operational benefit.

### SECURING WATER FOR FUTURE GENERATIONS

The Basra Emergency Water Plan draws on K&A's extensive experience in water planning and design across the Middle East, including major desalination, transmission and strategic storage projects in Saudi Arabia, Oman and Qatar.

By integrating treatment, desalination, transmission and storage within a single long-term strategy, the program



provides a coordinated response to Basra's most pressing water challenges while creating a platform for future growth.

the plan will help provide a more secure water future for the communities, businesses and industries that depend on it."

"This work addresses both today's water challenges and the demands of tomorrow," said Rami Hanna, Director – Basra. "By strengthening reliability, improving resilience and diversifying water sources,

The Basra Emergency Water Plan represents an important step towards safeguarding one of Iraq's most vital resources, helping ensure reliable access to water for millions of people in the decades ahead. ■







TRANSPORTATION | IRAQ

## CONNECTING BAGHDAD ACROSS THE TIGRIS

The Al-Jadriya Bridge will create a new connection across the Tigris, strengthening links between Al-Rusafa and Al-Karkh while contributing to Baghdad's long-term transport network.

As Baghdad continues to modernize its transport infrastructure, the Al-Jadriya Bridge will provide a key new crossing across the Tigris River. Designed by Khatib & Alami (K&A) as part of the wider Abu Nuwas Road Expansion Project, the bridge will improve access to residential, educational, commercial, and governmental districts across the capital.

The bridge forms the centerpiece of a 7.7 km transport corridor connecting Abu Nuwas Road with Al-Qadisiyah Expressway and Al-Nusour Square. Together with two elevated viaducts and grade-separated connections,

the project is expected to reduce peak-hour travel times by approximately 20-35%, increase cross-river capacity, and provide a more efficient route for thousands of daily commuters.

"The success of a project like this depends on how well every element works together. From structural design and traffic planning to construction sequencing, every decision contributes to a bridge that is efficient to build, resilient in operation, and responsive to the needs of the city," said Ali Ayoub, Principal - Transport Planning & Traffic Engineering.

### ENGINEERING A NEW RIVER CROSSING

Delivering a major bridge across the Tigris requires careful planning within one of Baghdad's busiest urban environments. The project responds to heavy traffic volumes, limited right-of-way, environmentally sensitive areas, and continuous public activity along the riverfront while maintaining traffic movement throughout construction.

To meet these challenges, K&A designed the Al-Jadriya Bridge using a 520 m-long box-girder structural system with spans of up to 85 meters.



The design minimizes the number of in-river supports, reducing impacts on river hydraulics, navigation, and the surrounding environment while providing a durable crossing for long-term use.

### CONNECTING PEOPLE AND PLACES

Beyond creating a new river crossing, the bridge will play an important role in strengthening everyday connections across Baghdad.

Scheduled for completion in June 2027, the project is progressing through a carefully phased construction program. Temporary traffic diversions and sequenced structural works are helping maintain traffic flow while reducing disruption to commuters and surrounding communities.

By increasing cross-river capacity and relieving pressure on existing transport routes, it will improve access to employment centers, universities, commercial districts, and public services, making travel across the city more efficient for daily road users.



The project also complements the wider revitalization of the historic Abu Nuwas waterfront through upgraded public spaces and an enhanced riverside promenade, helping reconnect the city with the Tigris River while contributing to Baghdad's broader urban development ambitions.

"Transport infrastructure has the greatest impact when it moves traffic efficiently while supporting the long-term development of the city it serves. The Al-Jadriya Bridge has been designed with that wider objective in mind," said Ayman Awad, Senior Director - K&A Baghdad. ■



## OPINION

# THE DIGITAL LAYER OF DESIGN HOW ICT IS CHANGING THE BUILT ENVIRONMENT

AI, digital twins and connected infrastructure are reshaping the built environment. Their full potential depends on integrating ICT as a core design discipline from the earliest stages of every project.

By **Dr. Houssam AlMasri**  
Principal of ICT Global Business Development, Khatib & Alami

Over the past few years, discussions about the future of the built environment have increasingly centered on artificial intelligence (AI), digital twins and smart cities. While these technologies are transforming our industry, the more fundamental shift, in my view, is occurring elsewhere—in information and communications technology (ICT).

Too often, ICT is introduced as an afterthought after key architectural and engineering decisions have already been made. At that stage, technology becomes something that must be forced into a project rather than something that shapes its long-term performance. As buildings and infrastructure become increasingly connected and data-driven, this sequential approach no longer reflects the realities of modern project delivery. Instead, ICT has evolved into a core design discipline that must be integrated from day one, alongside architecture, engineering, and planning.

## DESIGNING CONNECTED ASSETS

Today's buildings are no longer static physical assets. They are intelligent environments that generate, exchange, and rely on data throughout their entire lifecycle. Connectivity, cybersecurity, communications networks, operational technology, and data architecture are now as fundamental to resilient, high-performing developments as structural integrity.

The growing adoption of digital twins illustrates this evolution. Their true value extends far beyond sophisticated visual models. A digital twin only becomes an effective operational asset when supported by robust ICT infrastructure, interoperable systems, Internet of Things (IoT) connectivity, and trusted data. Without these foundations, it remains a static digital representation rather than a dynamic platform for real-time decision-making.

AI further reinforces this shift. Instead of replacing engineering expertise, it enables better decisions by transforming connected data into insights that improve operational performance, anticipate maintenance needs, optimize energy use, and support long-term asset management. The value of AI depends on the strength of the underlying digital infrastructure, not just the intelligence of the algorithms.

## FROM SMART BUILDINGS TO CONNECTED CITIES

The implications extend far beyond individual buildings. Increasingly, assets function as active participants within wider urban systems, exchanging information with utilities, transport networks, and energy

infrastructure while responding dynamically to changing demand and grid conditions.

As cities pursue greater resilience and sustainability, digital infrastructure is now just as critical as physical infrastructure. Buildings are no longer designed simply to consume energy or deliver services; they are becoming intelligent components of interconnected urban ecosystems.

At the same time, the industry is moving towards open, interoperable digital environments that enable engineering, operational, and asset information to flow seamlessly across multiple platforms. Long-term value will increasingly depend not only on adopting new technologies, but on ensuring those systems are built to communicate throughout the asset's lifecycle.

## AN ICT-LED DESIGN APPROACH

This evolution requires a different approach to project delivery. Success will no longer be measured by how many digital technologies are incorporated into a project, but by how effectively digital infrastructure is planned and integrated from the outset.

This is particularly important for complex developments such as data centers, healthcare facilities, airports, transport hubs, and smart districts, where ICT decisions directly influence resilience, cybersecurity, operational continuity, scalability, and long-term performance. Establishing an ICT-led design basis early enables project teams to align digital requirements with architectural and engineering decisions, creating infrastructure that remains adaptable and resilient for decades to come. ■



Throughout my career, I've seen projects where ICT was introduced late in the design process, leading to significant redesign to accommodate operational technologies that could have been considered much earlier. Bringing ICT into the process from the start helps multidisciplinary teams make better-informed decisions and deliver assets that are prepared for evolving operational and technological demands.

#### A NEW DESIGN MINDSET

While conversations about the future of the built environment frequently focus on emerging technologies, I believe the greater opportunity lies in rethinking our fundamental

approach to design. The projects that create lasting value will be those where digital infrastructure is planned, coordinated, and engineered with the same strategic rigor as architecture, structural engineering, and building services.

As our industry continues to advance, the future of the built environment will depend less on the specific technologies we adopt and more on our commitment to embedding digital infrastructure into the design process from the very outset. ■



#### About the Author

Dr. Houssam AlMasri is Principal - ICT Global Business Development at Khatib & Alami, where he leads the strategic planning and delivery of integrated ICT solutions for complex developments across the Middle East. His expertise spans smart city design, telecommunications, data centers, digital infrastructure, and technology strategies that enable resilient, future-ready developments and open-source data exchange platforms.

#### ACADEMIC PARTNERSHIP | UAE

## ADVANCING AI-DRIVEN ENGINEERING THROUGH ACADEMIC COLLABORATION

**Khatib & Alami (K&A) has partnered with Ajman University to establish an endowed academic chair in Artificial Intelligence (AI) and Machine Learning, supporting education, knowledge development, and emerging talent.**

Established under the patronage of His Excellency Sheikh Rashid bin Humaid Al Nuaimi, the initiative strengthens links between academic knowledge and industry practice, helping translate new technologies into practical solutions for planning, design, and the built environment.

The agreement was signed by Dr. Najib Khatib, K&A Chairman and CEO, and Dr. Karim Seghir, Chancellor of Ajman University. Through the endowed chair, the partnership will support advanced research, specialized teaching, academic publishing, and multidisciplinary



knowledge exchange between researchers, students and industry practitioners. K&A and Ajman University will also collaborate on conferences, training programmes and joint initiatives that encourage innovation and help prepare the next generation of professionals for an increasingly technology-enabled future.

fostering cooperation between academia and the private sector.”

#### RECOGNITION AT AJMAN UNIVERSITY GRADUATION

The initiative was also acknowledged during Ajman University's “Proud of the UAE” Graduation Ceremony. His Highness Sheikh Ammar bin Humaid Al Nuaimi, Crown Prince of Ajman, honored Dr. Najib Khatib in recognition of K&A's contribution as a strategic supporter of higher education, research, and innovation. Dr. Khatib attended the ceremony alongside Bashar Ayyash, Senior Vice President and Partner.

Founded by two professors more than six decades ago, K&A has long maintained strong ties to academic excellence and knowledge development. The establishment of the AI and Machine Learning Chair builds on that legacy, creating a platform for collaboration that will help advance research, develop talent, and accelerate the practical application of emerging technologies across the built environment sector. ■



collaboration in the rapidly evolving fields of AI and Machine Learning.

As digital technologies continue to reshape the design, construction and management of infrastructure and cities, the initiative aims to create opportunities for

“This partnership reflects our commitment to investing in knowledge and nurturing future talent,” said Dr. Najib Khatib. “It strengthens higher education and scientific research while driving innovation, improving the efficiency of engineering and planning solutions, and





## CASE STUDY

# MORE POSSIBILITIES, EARLIER: HOW AI IS ENHANCING DESIGN DECISION-MAKING

**For the Ibn Al-Qayyim Boys Elementary School concept study, Khatib & Alami (K&A) combined AI-assisted analysis with Revit-based BIM to compare three design scenarios and reduce several days of manual preparation to a few hours.**

At the earliest stages of a project, decisions made in days or weeks can influence outcomes for years to come. Yet concept design often requires teams to assess multiple possibilities while working with incomplete information, tight deadlines and competing project priorities.

For the concept design of the Ibn Al-Qayyim Boys Elementary School in Saudi Arabia, K&A explored how Artificial Intelligence (AI) and Building Information Modeling (BIM) could work together to

support faster analysis, clearer decision-making and more effective multidisciplinary collaboration.

By combining AI-assisted analysis with Revit-based BIM workflows, the team compared multiple planning scenarios and reduced several days of manual preparation into a process that

could be completed within hours, allowing more time to focus on design quality, functionality and project value.

## CLEARER DESIGN CHOICES

Educational facilities present a unique design challenge. Beyond accommodating classrooms and specialist

teaching spaces, schools must balance circulation, security, accessibility, outdoor learning, sports facilities, operational requirements and long-term flexibility.

For the Ibn Al-Qayyim Boys Elementary School concept study, the brief incorporated a broad range of academic, administrative and support functions that needed to work together as a coherent and efficient environment.

Rather than beginning with building forms and layouts, the K&A team used AI-assisted workflows to structure and analyze the project brief, transforming raw project data into visual studies that explored relationships between spaces, movement patterns, operational requirements and zoning strategies.

The approach enabled designers to understand how different functions should connect, where separation was required and how users would move through the campus before detailed design development began.

For Mahmoud Takatkah, Associate Principal – BIM and Digital Design at K&A, this shift changes the way designers use their time. “When repetitive preparation work becomes faster, designers gain more time to focus on the important questions,” he says.

## THREE SCENARIOS, ONE CYCLE

One of the greatest challenges during concept development is assessing competing priorities while maintaining project momentum.

Using the AI-assisted workflow, the team examined three distinct scenarios: a full-scope solution; a budget-constrained option; and an accelerated-delivery scenario.

## MEASURABLE IMPACT



### DAYS TO HOURS

Manual preparation and coordination reduced from several days to a few hours



3

Planning and delivery scenarios



8

Decision criteria reviewed



5

Review perspectives engaged early



6+

Connected study-output types

Each was considered against teaching efficiency, circulation separation, security, outdoor learning opportunities, sports access, future flexibility, cost considerations and construction phasing.

This streamlined the preparation and coordination process, allowing stakeholders to compare options within a single workshop cycle, with a clear focus on outcomes.

According to Mahmoud, the most noticeable impact was how quickly the multidisciplinary team aligned around the available options. “Discussions became clearer, faster and more focused on project value instead of repetitive coordination,” he says.

## AI TO BIM

Once the main spaces, zoning principles and circulation priorities were agreed, the information moved into a Revit-based BIM environment for technical development and multidisciplinary review.

Architectural, structural, MEP and landscape considerations were brought together within a coordinated digital model, allowing the team to assess program requirements, accessibility, technical

interfaces and operational performance at an early stage.

The model also enabled reviews of structural grids, building services, fire and life-safety requirements, utility coordination and long-term operational considerations while maintaining flexibility for ongoing refinement.

Rather than replacing design expertise, the AI-assisted studies provided a structured starting point that informed professional judgement, helping teams move from concept evaluation to coordinated design with greater confidence and clarity.

## MORE TIME TO THINK

The Ibn Al-Qayyim study shows how AI can give design teams more time to focus on the decisions that matter. It also demonstrates the value of introducing structured analysis before a design direction becomes fixed.

As these tools continue to evolve, the opportunity is not simply to work faster, but to ask better questions earlier, helping teams focus on creating environments that are functional, adaptable and responsive to the needs of the people who will use them. ■



# K&A TO SUPERVISE CONSTRUCTION OF OMAN'S A'THURAYA CITY

**“WE ARE PROUD TO CONTINUE CONTRIBUTING TO THE COUNTRY’S GROWTH AND LOOK FORWARD TO SUPPORT DELIVERY OF A'THURAYA CITY, A PROJECT THAT WILL CREATE LASTING VALUE FOR RESIDENTS, BUSINESSES, AND THE WIDER COMMUNITY.”**

*Mostafa Sayed, Senior Director*



Khatib & Alami (K&A) has been appointed to provide construction supervision for A'Thuraya City, a major mixed-use development spanning approximately 17 million square meters in Oman.

Scheduled for completion in February 2029, the development supports the objectives of Oman Vision 2040, contributing to economic diversification, sustainable urban growth, and an enhanced quality of life for residents and visitors.

Under the agreement, K&A will supervise construction works across the city, providing technical oversight,

quality assurance and project governance services to support the successful delivery of one of the Sultanate's most significant urban projects.

The appointment draws on K&A's extensive experience in managing complex urban and infrastructure programs throughout the region. Working closely with project stakeholders, the company will maintain quality, consistency, and compliance across all aspects of delivery.

The agreement was signed during the 21st Oman Real Estate Conference & Exhibition 2026 at the Oman Convention & Exhibition Centre in Muscat.



“Oman has been part of K&A's journey for more than five decades,” said Mostafa Sayed, Senior Director. “We are proud to continue contributing to the country's growth and look forward to support delivery of A'Thuraya City, a project that will create lasting value for residents, businesses, and the wider community.”

Over the past five decades, K&A has supported public and private-sector clients across Oman in infrastructure, buildings, transportation, water, and urban development. A'Thuraya City reflects the company's continued commitment to helping shape the next generation of communities and destinations across the Sultanate. ■



# SUPPORTING COMMUNITIES ACROSS THE REGION

K&A's commitment to the communities we serve extends beyond the projects we deliver. Through our longstanding partnerships with the Red Cross and other community organizations, we support initiatives that strengthen healthcare access, promote wellbeing, and provide practical assistance to vulnerable people and families across the region.

From encouraging blood donation to expanding access to essential medical equipment and supporting displaced families, these initiatives reflect our belief that sustainable development is ultimately about improving people's lives.

## SUPPORTING CRITICAL HEALTHCARE NEEDS

In recognition of World Blood Donor Day, K&A employees participated in blood donation campaigns across our offices in Lebanon, Saudi Arabia, and Egypt in partnership with the Red Cross and local blood donation organizations.



The campaigns resulted in 72 blood donations, contributing to regional efforts to maintain essential blood supplies and support patients requiring life-saving treatment.

"These donations will play a vital role in saving and improving the lives of patients in need," said Elie Dagher, Blood Transfusion Director at the Lebanese Red Cross, in a letter of appreciation recognizing K&A's support for the initiative.

## IMPROVING ACCESS TO ESSENTIAL CARE

In partnership with the Lebanese Red Cross and the Lebanese Union for People with Physical Disabilities (LUPD), K&A supported displaced families across Lebanon by providing 45 pieces of essential medical equipment, including wheelchairs, hospital beds, and medical mattresses. The initiative improved access to mobility assistance and home-based care for individuals

  
**72**  
BLOOD  
DONATIONS

  
**45**  
MEDICAL  
EQUIPMENT

**"THESE DONATIONS WILL PLAY A VITAL ROLE IN SAVING AND IMPROVING THE LIVES OF PATIENTS IN NEED"**

*Elie Dagher,*  
Blood Transfusion Director at  
the Lebanese Red Cross

living with physical disabilities and others requiring ongoing medical support.

The collaboration also opened opportunities to explore how our GIS and digital expertise can support future humanitarian and community development initiatives across Lebanon.

"Seeing how something as simple as access to the right equipment can improve someone's daily life is incredibly meaningful. We're proud to support this initiative and the important work being done by our partners," said Olga Khoury, Director – Marketing and Communications.



## HELPING DISPLACED FAMILIES

K&A also partnered with the Lebanese Red Cross Youth to support displaced families at the Camille Chamoun Sports City Stadium, which continues to serve as a temporary shelter.

Employees and Red Cross Youth volunteers distributed gifts to children from infancy to age 18, creating moments of comfort and encouragement for families during a challenging time.

## CREATING LASTING COMMUNITY IMPACT

While these initiatives vary in scale and focus, they share a common objective to support the health, dignity and wellbeing of the communities in which we operate. By working alongside trusted humanitarian and community organizations, K&A continues to contribute to practical, locally driven solutions that make a difference where it is needed most. ■



WE ARE INSPIRED BY OUR VISION OF A THRIVING FUTURE FOR OUR COMMUNITIES AND CONFIDENT IN OUR ABILITY TO DELIVER INNOVATIVE SOLUTIONS TO ACHIEVE THIS GOAL.

**ARCHITECTURE & PLANNING**

- Buildings
  - Residential
  - Commercial
  - Hospitality
  - Retail
  - Healthcare
  - Educational
  - Special Facilities
  - Sports & Recreation
- City & Regional Planning
  - Urban Planning & Design
  - Sectorial & Regional Planning
  - Landscape Architecture
- Interior Design & FF&E

**ENERGY**

- Power & Renewables
- Oil & Gas

**INFRASTRUCTURE**

- Transportation
  - Roads & Highways
  - Airports
  - Rail & Mass Transit
  - Bridges
  - Ports
  - Transport Planning & Traffic Engineering
- Water & Environment
  - Water Resources & Stormwater Drainage
  - Water Treatment
  - Urban Hydraulic
  - Dams & Hydraulic Structures
  - Environmental Studies & Waste Management
- Geotechnical & Heavy Civil
  - Foundations & Earthworks
  - Heavy Civil Engineering
  - Marine Engineering
  - Tunneling
- Information & Communications Technology (ICT)

**PROGRAM MANAGEMENT SERVICES**

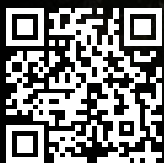
- Program Management Consultancy
- Sustainability

**DIGITAL SERVICES**

- Geospatial Systems Integration
- Energy & Utilities
- Telecommunications

**ENGINEERING SERVICES**





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**A' Thuraya City, Oman**  
K&A's Scope: Construction Supervision