**CONCLUSIONS FROM
AN EXPERT ROUNDTABLE**

Actions for the adoption of Building Information Modelling (BIM) in the Middle East and North Africa

In the ever-evolving Architecture, Engineering, and Construction (AEC) sector, the adoption of Building Information Modelling (BIM) has emerged as a transformative force.

BIM has become an in-demand tool which has proven to energise the construction sector, enabling the digital management and design of buildings and engineering processes. Many share the view that construction must embrace a combination of digital technologies including BIM, new visualisation tools, and big data analysis.

Governments around the globe are increasingly recognising the efficiencies that can be gained from adopting BIM. Many across the AEC ecosystem view the use of BIM as key to increasing innovation and directly responsible for improvements in productivity.

Although players across the AEC ecosystem in the Middle East and North Africa are using BIM for large-scale projects, its use is not yet systematic or widespread.

During a recent roundtable hosted by KnowledgePoint, experts discussed the immense potential and benefits that BIM offers to the AEC ecosystem, to communities and to countries across the Middle East and North Africa (MENA).

The case for technology in construction across MENA

In an era defined by technological advancements and sustainability, the AEC sector across MENA stands at a crossroads. Emerging from the impact of the global pandemic, the region is grappling with the challenge of diversifying away from its reliance on oil. In a world scrutinising and scrabbling to minimise the effects of climate change, the need for sustainable and efficient construction practices are increasingly apparent.

By integrating data and fostering interdisciplinary coordination, BIM streamlines construction processes, reduces costs, and enhances sustainability. It facilitates efficient collaboration, improved decision-making, and enhanced project outcomes. It serves to enhance workflows and mitigate risks across the entire lifecycle of a construction project.

By leveraging these digital technologies, integrated collaboration, and data-driven decision-making, the construction landscape can be transformed. We will see enhanced project delivery, and a shift towards a more sustainable and resilient built environment.

As such, the integration of BIM as a standard practice will promote industry-wide innovation, productivity, and economic growth. It will play a part in shaping a future where our built environment reflects the aspirations of the region and reflects the needs of our communities.
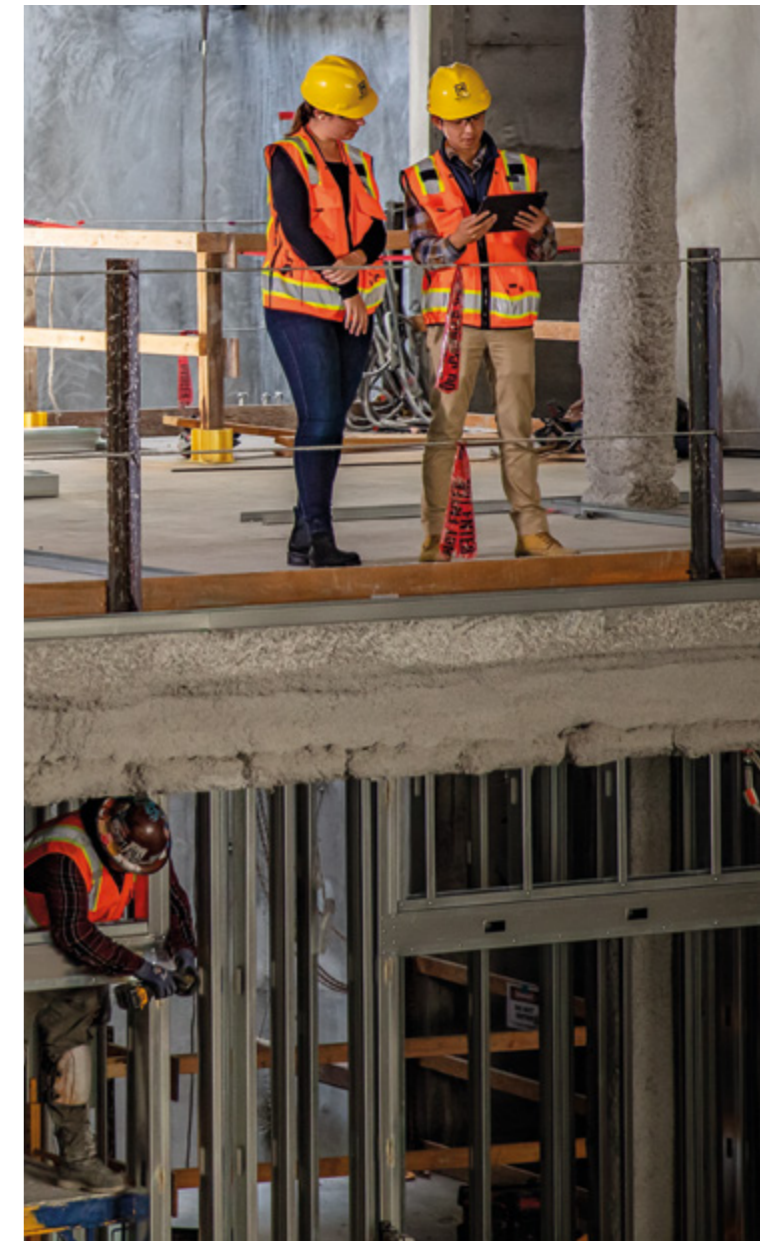
Evidence to support the adoption of BIM

For architecture and engineering:

According to research from Dodge Data & Analytics, architecture and engineering firms report benefits for a range of factors across business growth, improved sustainability and operational efficiency.

For construction:

The positive experience is similar for construction firms. According to research from Dodge Data & Analytics, construction firms report benefits a number of growth, quality and project management factors.

BIM offers significant potential across the AEC ecosystem. The value derived is slightly different for the different players across AEC.

BUSINESS GROWTH

Client satisfaction
89%

Recruitment/retention
83%

Design quality
90%

Win rate
78%

WINNING BUSINESS

Project success rate
84%

Bid efficiency
75%

Stakeholder engagement
78%

Win rate
73%

For owners:

Owners stand to be significant beneficiaries from BIM. According to McGraw Hill Construction's research, there are a number of positives for owners.
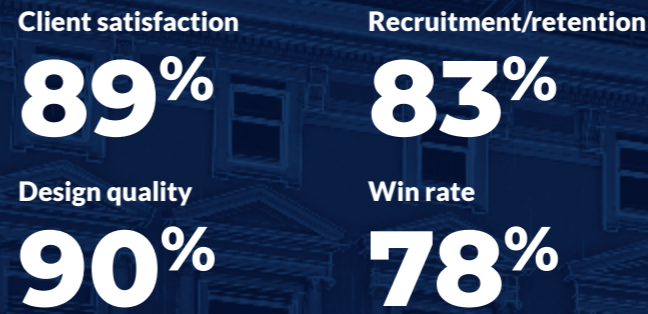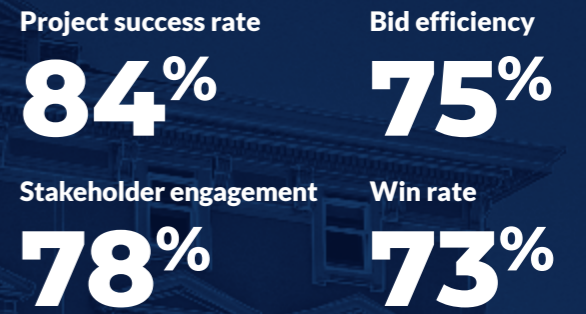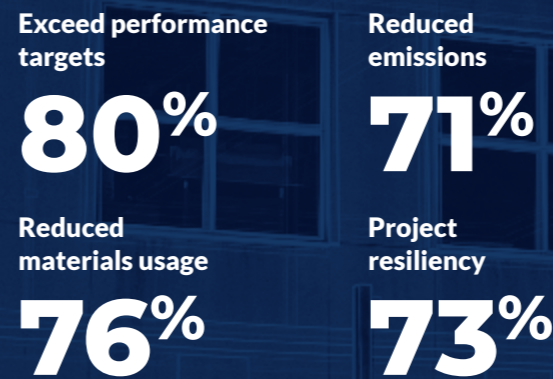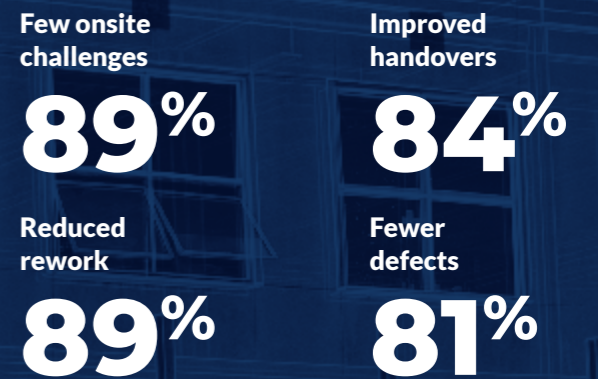
Greater cost predictability
72%

Improved schedule
85%

Fewer errors
85%

Optimised design
92%

Better understanding
98%

IMPROVED SUSTAINABILITY

Exceed performance targets
80%

Reduced emissions
71%

Reduced materials usage
76%

Project resiliency
73%

PROJECT QUALITY

Few onsite challenges
89%

Improved handovers
84%

Reduced rework
89%

Fewer defects
81%

OPERATIONAL EFFICIENCY

Better collaboration
93%

Increased stakeholder buy-ins
82%

Fewer errors
92%

Improved forecasting
79%

COST & SCHEDULE

Cost control
79%

Schedule control
81%

Forecast accuracy
76%

Resource planning
79%

Actions for change

The expert panel explored various aspects of BIM adoption, including technology readiness, capacity building, collaboration mechanisms, and regulatory frameworks. They identified ten actions designed to drive change across the sector.

1. Create a new identify for AEC in the region

Work in partnership with engineering institutes, industry and academia to recognise the importance of AEC to the growth of the region. Use the adoption of technology as a way to revitalise the sector. Engineering institutes and standardisation are key, ensuring consistent practices, enhanced collaboration, and improved project outcomes.

2. Develop and retain the region's talent

Investing in and retaining the region's talent is critical. Encouraging investment in education, creating attractive career opportunities, fostering innovation ecosystems, and strengthening regional collaborations can help retain and harness the potential of skilled professionals, driving economic growth and stability.

3. Cultivate a culture for BIM adoption

Spread awareness about the importance of BIM implementation and make it the norm for AEC. Foster a culture that values BIM, provides learning opportunities, and encourages the adoption of BIM as a standard practice. Provide training sessions, consultancy missions, and educational programs to promote learning and understanding.

4. Incorporate existing building stock into BIM practice

Recognise that not everything is new, and therefore acknowledge the need to capture digital information relating to existing buildings and infrastructure. Develop strategies to develop digital information for built assets that lack proper documentation. Focus on the digitisation of facilities management (FM) to maximise the benefits of BIM in both new and existing structures.

5. Advocate to mandate BIM

Encourage governments to create frameworks to mandate BIM. Promote the use of BIM as a core requirement on projects which can improve efficiency, collaboration, and data-driven decision-making across the construction ecosystem. Reiterate the value BIM can offer to government priorities.

6. Engage the education sector

Explore collaborations between industry with the education sector to develop a learning path for BIM implementation. Offer training sessions and consultancy projects. Explore ways to incorporate BIM into the curriculum of architecture, engineering, and construction programs.

7. Define your vision and clear plan to get there

Establish specific goals and a long-term vision for the implementation of BIM. Determine what you want to achieve, focusing on improved complexity management, design quality, error reduction, customer satisfaction, and stakeholder buy-in. Create a detailed plan outlining the steps required to reach your BIM goals. Evaluate your current processes, identify areas that need improvement, and allocate resources for training, software acquisition, and the development of standards and templates.

8. Invest in training and development

Recognise that training is crucial for the widespread adoption of BIM adoption. Allocate resources for training staff members and acquiring the necessary skills and knowledge to effectively utilise BIM tools and software. Make sure the training is tailored to meet the needs of each member of the team, reflecting the role they perform.

9. Embrace certification and licensing programs

In the digital economy, AEC employers place significant emphasis on recruiting people with relevant technical qualifications. The validation of skills through certification has significance for AEC professionals wherever they are on their career pathway. Certification is a marker of competence, ensuring a proven minimum baseline of skills has been met.

10. Embrace BIM as an investment

Change the narrative, view BIM implementation as an investment rather than an expenditure. Understand that implementing BIM is an investment in the future efficiency and effectiveness of your organisation. Emphasise the long-term benefits and value it brings, rather than viewing it as a mere expense. Detail how the initial costs and efforts will lead to long-term benefits, including improved efficiency, time savings, and better project outcomes.

What next?

This document represents the collective insights, experiences, and recommendations of our expert panel. Together they urge the adoption of BIM as a transformative tool for the AEC industry in the MENA and beyond.

Digitally-enabled processes and remote working have been proven to work across the AEC ecosystem. The adoption of BIM is only going to grow, as more and more nations mandate its use, and more organisations realise its benefits.

AEC players across the region need to get ahead of the game, supporting the adoption of new working practices and investing time in developing BIM skills today. Governments, academia, industry, practitioners and training providers all have a part to play.

Expert panel

David Greenwood, Professor of Construction Management in the Faculty of Engineering and Environment, Northumbria University, UK

Before entering academia, he worked for 10 years in the Construction Industry. He is a member of the central committee of the Construction Blockchain Consortium, Academic Lead of the International Centre for Connected Construction (IC3) and co-founder and director of BIM Academy, an award-winning digital consultancy company. He has over twenty years of experience in consulting, training and lecturing around the world for commercial and governmental organisations and is an active promoter of initiatives that create better practice in the construction industry. He was former Chair of the Association of Researchers in Construction Management (ARCOM), has authored over 150 publications, and has held research funding from many UK and European agencies.

Habib N Bou Habib, DG Jones

An BIM expert with more than 13 years of experience in developing BIM, managing processes & protocols, and overseeing BIM coordination for design teams. Experienced in identifying multidisciplinary clashes and ensuring asset consistency. Proven capability in providing BIM technical support and hands-on training. In addition, continuing R&D for smart solutions to boost efficiency.

Hana Elleuch, BIM expert & Founder of Prodesign Training, Tunisia

With a PhD in architectural design, established Prodesign Training in Tunisia. Alongside this, Hana teaches at the School of Architecture and Urbanism of Tunis and Université Centrale (Honoris Group). She is an Autodesk Certified Instructor and Autodesk Certified Professional, with extensive experience of the incorporating BIM into practice.

Juan Tena Florez, Digital Services Director, KEO

With more than 18 years of professional experience including nine years in the Middle East, where he has gained extensive experience in BIM implementation, strategic planning, and standardization of processes in line with ISO 19650 standards. He is a BSI Certified BIM Project Information Professional and BIM Project Information Practitioner, Smart Cities Academy Practitioner and is a regular speaker at key GCC and International BIM conferences and events. Winner of the BIM Champion of the Year 2022 at the Construction Technology Festival awards in the Middle East and Winner of the Visionary of the Year 2023 at the ME Digital Construction Awards.

Paul Woddy, White Frog and Focus HQ, UK

Paul has defined internationally recognised protocols and advised hundreds of companies on the strategic implementation of Information Management. An original member of the Revit Inc team, Paul has spent over twenty years as a trainer of trainers, directly or indirectly responsible for upskilling hundreds of thousands of BIM / IM professionals. Through White Frog, Paul builds training courseware on IM software and workflows as well as teaching and speaking globally. Through Focus HQ, Paul provides a templated and auditable approach to delivering standardised frameworks such as ISO 19650 and others.

Tharakesh Anantha Krishnan, Omnix International

A project management professional and civil engineer with more than 24 years of experience. He draws upon 10 years of experience in digital project delivery using BIM, Open BIM, VDC & CDE. He's also experienced in cloud project management solutions for construction, remote management and augmenting frontline workforce solutions. He's involved in the upskilling of digital and BIM knowledge for stakeholders at all levels.

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