CONSTRUCTION
BUSINESS NEWS

CONSTRUCTION INNOVATION
FORUM 2019

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Construction Innovation Forum 2019, presented by du, took place on 1st of May 2019 at the Fairmont the Palm Hotel which saw over a 150 attendees and 17 speakers take part in this event.

The Middle East and North Africa region (MENA) is no exception when it comes to the challenges posed by urbanisation and architecture. On the other hand, these challenges also presented the country with substantial opportunities. Dubai has succeeded in transforming itself into a global city, and a regional business and tourism hub; this has happened predominantly in the last two decades.

With the government also undertaking numerous 'smart' initiatives, the benefits of digitisation are expected to percolate to every sector in the economy, especially infrastructure, utilities, transportation, aviation, and tourism.

The Construction Innovation Forum presented an opportunity for the attendees to get acquainted with the facts and knowledgeable discussion about smart cities, creating the optimum building design and how can we move towards building more sustainable and energy efficient buildings.

PANEL 1: HOW CAN BIM HELP IN CREATING THE OPTIMUM BUILDING DESIGN?

Contractors and companies that all simultaneously plan, design, construct, operate and maintain diverse infrastructures all use BIM to make reliable decisions in real time about building from design, construction to demolition. BIM software allows engineers and designers to essentially create buildings on a computer with rich details, clean layers and references before construction take place on site. With such foresight at the hands of those involved in the project, how can that help in creating the optimum building design?

Alexander Koplakov: With the introduction of BIM, design consultants are expected to setup BIM – a database of information which will be used by all project stakeholders during entire project life cycle (including Construction and Operations). The design BIM is expected to be clash free, model breakdown and data structure are expected to be suitable for construction, and sometimes the design consultants are even asked to incorporate construction sequencing and maintenance requirements into their models. At the same time design fees are rarely reflecting these additional requirements.

Donya Mehran: As the market is moving towards digitisation, Standardisation is no longer an option, it's a must that enables projects delivery consistency.

Ouafa Messaoudi: Beyond the geometry that a 3D BIM model carries, there is the data, which is the "I" for Information in the Building Information Modelling.

What BIM allows with this data embedded to it is a better control over the design in order to improve the efficiency and the building performances.

Through this data, we can all see the benefits of the built environment

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digitalisation. This digitalisation is considered as a great opportunity for the industry to reduce the costs at all phases and over the entire building lifecycle. Optimized buildings from Design to Construction combines both technology, data and expertise.

Arsen Safaryan: A few years ago we used to bid and construct massive projects based on scanned PDF drawings and sketches. Today we receive data rich design intent models at the tender and construction stages of projects. Although, in most cases the BIM data is still being labelled as "for information" – we hope to see this tendency grow and BIM data become the contractual information for formal decision making, pricing and constructing.

Arsanious Abtnago: Artificial Intelligence is the new generation of BIM as it will change the BIM work flow from Static Modeling to "Parametricism" and Algorithmic Thinking. Instead of using data to start building our models, we will use Algorithms.

To build models and will not re-model over and over again each time there is change in the concept. BIM allows us to think in different aspects to solve our problems, but AI Plus BIM will give us alternatives for our problems. AI will automate tasks which will lead to save time and cost and the ROI will be massive.

Alan Haslop: In order for the use of BIM to advance, the owner needs to start pushing the use of it down through all teams on a project, not just for design but for true project collaboration

PANEL 2: WHAT ARE THE STEPS TAKEN BY DEVELOPERS TO ENSURE FUTURE PROJECTS ARE BOTH SUSTAINABLE AND ENERGY EFFICIENT?

Sustainable buildings refers to both a structure and the application of processes that are environmentally responsible and resource efficient throughout a building life-cycle: from planning to design, construction, operation, maintenance, renovation, and demolition. This requires close cooperation with contractors, architects, engineers, and the client at all project stages. We find out what are some of the steps taken to ensure that ongoing and future projects are both sustainable and energy efficient and what are some of the challenges faced in trying to do so?

Cyrus Engineer
SP

Sunil Gomes
GEMINI GROUP

Suhail Arfath
AUTODESK

Deema Aburizik
ARADA

Rita Allan
PINSENT MASONS

2019

Sunil Gomes: Sustainability is holistic in real estate development and must be part of everyday life not just in the concrete and glass.

If we look at our lifestyle, communication from home to office or travel, there are so many ways that we could reduce our carbon footprint, beyond the real estate sector.

We have one of the most modern metro systems and bus services in the world, with the growing population utilising it more each day. Sustainability should be part of our lifestyle and not be limited to just buildings.

Developers and partners need to form their own knowledge associations and work with governmental bodies for the betterment of all.

Cyrus Engineer: Clearly where we stand today in the world, sustainability is a burning need that everyone is responsible to ensure, whether it

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Sunil Gomes
CEO, Gemini Group

Rita Allan
Senior Associate,
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Deema Aburizik: Sustainability is a core part of our vision, and this stems directly from our two founders, both of whom are forward-thinking and environmentally conscious. Both of our projects, Aljada and Nasma Residences, are designed to be vibrant and sustainable urban environments. In our experience, sustainable development and sustainable building practices are actually being driven by bottom-line requirements and consumer interest. Consumers in this part of the world are becoming more educated and are aware of the cost savings from sustainable and smart building, and Arada is receiving a high number of requests from potential buyers about this issue. From a balance sheet perspective, it's clearer than ever before that sustainable building practices save considerable sums over the long term.
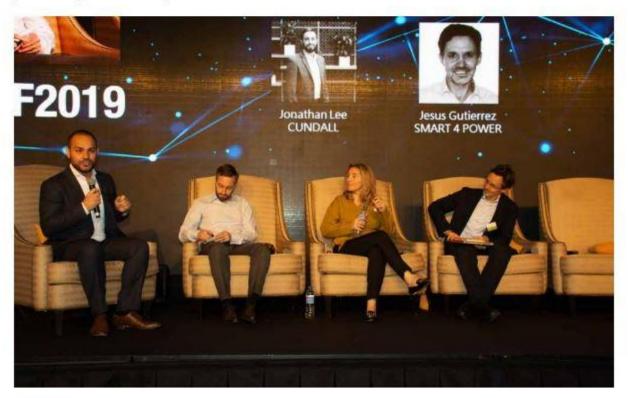
Suhail Arfath: Sustainability is not a "choice" or fashion statement anymore but a "need"; everyone in the AEC industry ecosystem is responsible for and needs to contribute to its successful implementation, developers alone can't do it.

Buildings contribute almost 40% to the global carbon emissions, which can be reduced considerably if we can lessen the waste in the construction industry which is nearly 30% today."

Buyers and investors of tomorrow are more aware and involved to reduce the carbon footprint and save the planet, this responsible behavior is going to be the key driver to ensure every infrastructure asset planned or built is going to be "Green"

be developers, regulators or designers. We all need to adapt sustainable practices in our businesses.

As a developer, we are translating this in our landmark project, Imperial Avenue, located at Downtown Dubai," added Cyrus. "Imperial Avenue will have its own solar panels on the rooftop to supply hot water to all the apartment units. Moreover, we have greywater harvesting to meet the needs of 40,000 ft2 of podium landscaping, 6D BIM for efficient MEP systems and low-cost FM, all of which creates a sustainable footprint for the next generations.

The creation of an organised framework to share the knowledge, practices and regional updates among the contractors, developers and designers is necessary. This will help to collectively reduce the carbon footprint and be more ecologically sustainable in the long run, and this will only happen when we join hands together instead of competing with one another.

PANEL 3: WHAT ARE THE POSITIVE IMPACTS THAT SMART CITIES CAN HAVE IN THE REGION?

Smart Cities is the next big thing. From smart mobility, building automation systems, smart traffic lights, smart car parks, and to numerous other advancements that will take cities to the next level. With such technological advancements taking place how can creating more smart cities make a positive impact in the region?

Jonathan Lee: It's important to understand that Smart Cities aren't just about incorporating new technologies, but the positive outcome those technologies can have on the health and wellbeing of the people living and working in them. Smart City technologies should be an enabler for radical new city-wide planning strategies to cope with increasing population density rather than for commercial benefit. To do this data needs to be shared openly, securely, ubiquitously and anonymously at all levels of society, from the personal user up to government level.

Pedro Pereira: Smart cities must go back to basics and launch more services that truly impact the experience of people. We need to think beyond smart city technology and get into the execution mode with those who can really make the difference.

Pamela Chikhani: Any technology or solution invented has to be open and integrating with each other. The future is all about interconnectivity and smart solutions talking to each

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Jonathan Lee
Head of Acoustics, Cundall

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other for the greater good. In parking, Parking Management System have to be open and API enabled to connect different systems and software to achieve greater results, sharing real-time data and resulting in a smooth experience to end users. Example: Secure Parking central command centre, create tremendous savings to clients if Parking Management Systems around the city have an open platform and connect to this solution.

Jesus Gutierrez: Smart City is a concept widely related to the use of the latest technology to enhance the cities living standards. The rapid technology developments and its applications, particularly in the area of telecommunications. IoT and mobility are paving the way for major improvements on the way we interact as individuals of a larger community. We are already experiencing significant changes over the last years and Dubai and the UAE are good example of how the use of these technologies are helping to leapfrog and putting the cities at the forefront. Many of these changes are definitely helping us to become more efficient societies, but are still majorly "transactional" for e.g. application and renewal of licenses, visas, Emirates ID, health cards, payment of parking, fine. The question is how we can move to the next step and become smarter and happier societies, facilitating knowledge sharing and improving the living conditions in areas such as sustainability, health and leisure.

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