



## “2017 Digital Construction Awards”



**Dubai Arena Project**

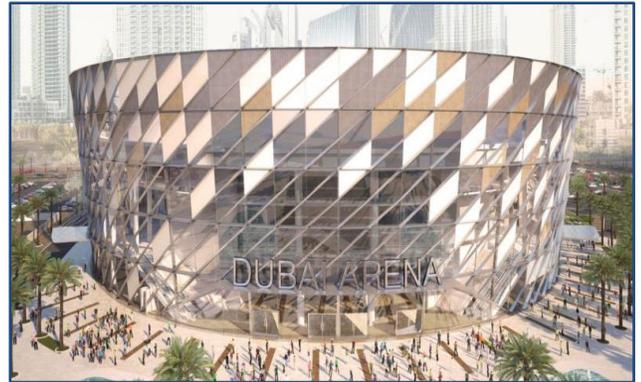
**&**

**Mohammed bin Rashid Library Project**

## 1. Overview about ASGC Projects:

### ❖ **Dubai Arena – The Biggest Touristic Destination for Global Events and Live Shows in the Region:**

ASGC is committed to create and deliver unique experiences, the 'Dubai Arena', a new state-of-the-art multi-purpose arena. Spanning an area of half a million square feet and with an approximate capacity of 20,000, the arena is set to enhance Dubai's leisure and entertainment offering and become the 'go to' venue for large scale international music concerts, sporting events such as hockey and NBA as well as other entertainment events.



Dubai Arena will be the only all-purpose indoor air conditioned arena of its size in the entire region and will boast an advanced infrastructure allowing it to accommodate mega-events. Strategically located at CITY WALK with proximity to the Dubai International Airport and accessible via the Dubai Metro, the new venue will be at the heart of Dubai's latest urban lifestyle destination surrounded by a plethora of hospitality, F&B, entertainment and shopping options. Ground has been broken for the project and is expected to be completed in the last quarter of 2018.

The new destination will enrich Dubai's existing infrastructure and will add a new state-of-the-art venue that will accommodate international events and will raise Dubai's credentials as a premium leisure and entertainment hub. Dubai Arena will host famous and world renowned athletes, artists and performers and attract tourists to Dubai all year round. It will also host large global events and performances that have not visited the region yet, due to the lack of a suitable platform for holding similar events.



## ❖ **Mohammed bin Rashid Library - A Dh1 billion library in the shape of an open book:**

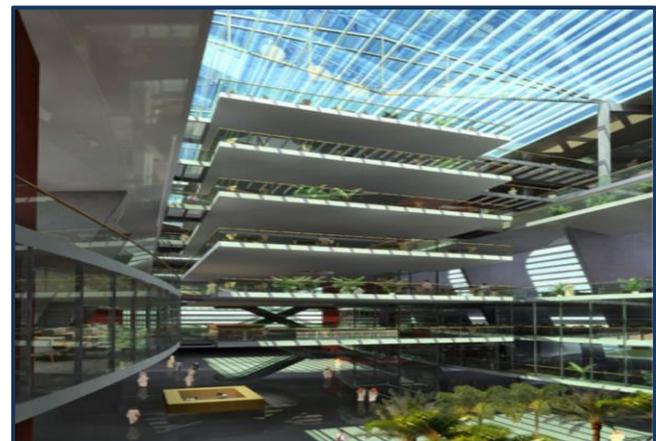
The Mohammed bin Rashid Library in Dubai will hold more than 1.5 million volumes, 1 million audio books and 2 million e-books, making it the world's largest electronic collection and the biggest library in the Arab world.

Overlooking the Dubai Creek, it will preserve Emirati culture, promote the Arabic language, and publish new titles and a contemporary Arabic dictionary, as well as translate 25,000 titles into Arabic.



Construction work has begun for the center, which will be built to accommodate 2,600 visitors at any time, the municipality estimates that 9 million visitors from overseas and across the country will visit the library each year. "The whole area will be transformed. The structure is unique and iconic. It is a challenge." The learning Centre is part of sweeping changes planned in the area.

The Mohammed bin Rashid Library - It is not an ordinary library, but is designed to be the largest cultural center in the Middle East and North Africa (MENA) region. In addition to over 4.5 million books, the library has several areas for interaction, events, activities, educational and cultural festivals, as well as venues for arts and literary exhibitions, heritage preservation initiatives and a 500-seat theatre for lectures, seminars and presentations on best practices. The library would also serve as a platform for hosting and launching the most significant intellectual and cultural initiatives regionally and globally.

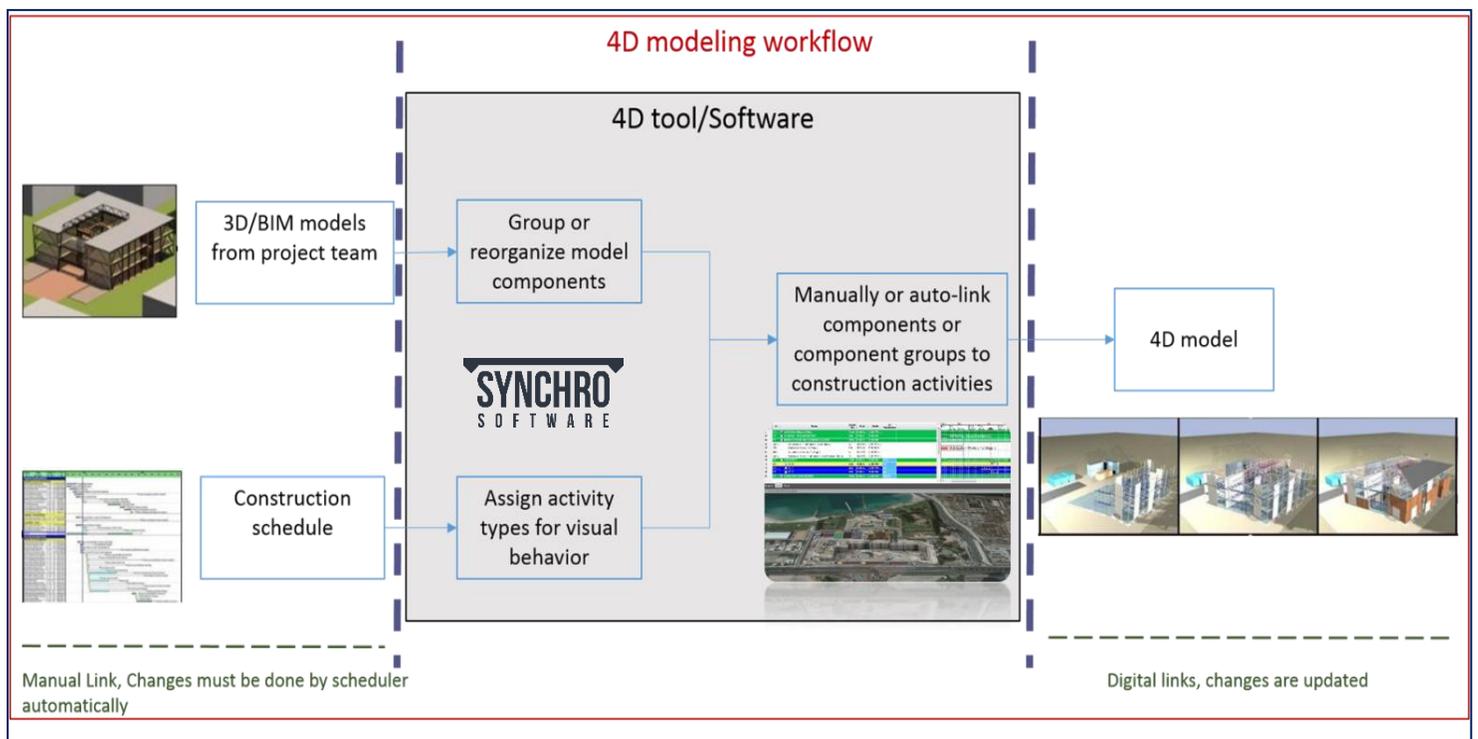


## 2. ASGC 4D Modeling Workflow:

ASGC model and manage the 4D BIM models from the various disciplines with our 4D BIM Teams either on-site or off-site at our Production house. This involves setting up shared workspaces, issuing common platforms etc. ASGC 4D team also monitor the LODs indicated in the 3D BIM Models, as per the relevant phases. Also, the 4D team monitor critical RFI's appeared from the 4D modeling and report to the relevant consultants and sub-contractors.

Simply, the 4D Schedule is a schedule that is linked to a 3D model. This provides a graphical representation of the Gantt chart as well as the project sequence in the form of a short movie or animation.

Using **Synchro**, we integrate the P6 schedule tasks, logic, durations, and timeframes with the related elements in the 3D model providing an accurate graphical representation of the work sequence as outlined in the schedule. Finally, the 4D model can reflect the project at any stage of construction.



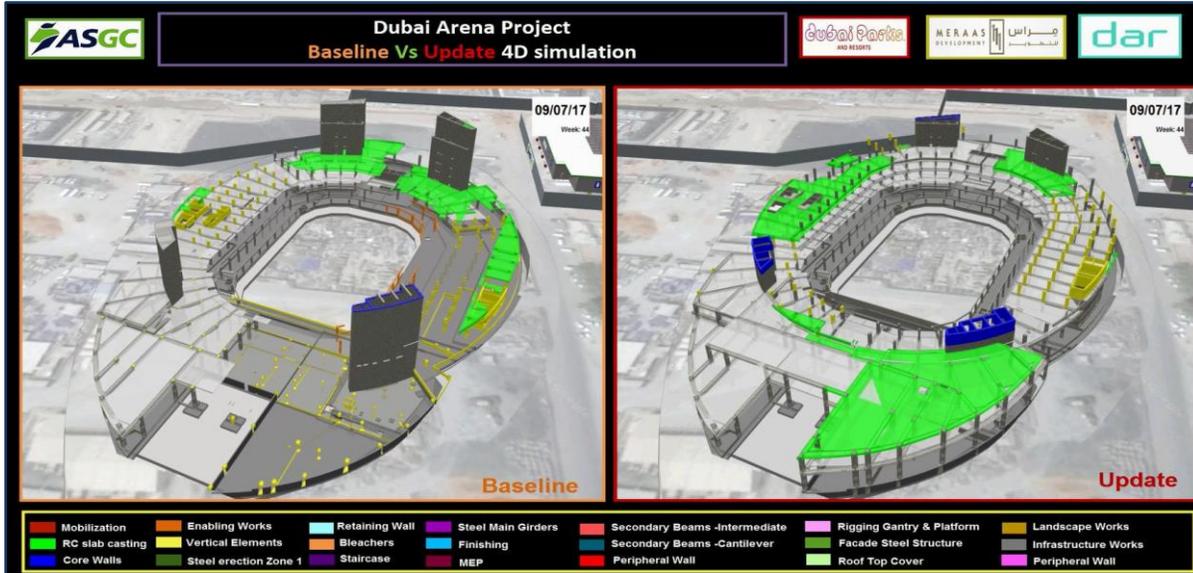
### **3. ASGC List of deliverables using Synchro pro:**

4D Construction Planning and Scheduling using **Synchro pro** enables the construction team to actively participate and provide instantaneous and continuous feedback throughout the life of the project, and thus should result in measurable improvement in performance based on several metrics, the following are some of the ASGC 4D modeling deliverables:

- Create a visual representation of the construction schedule to be used as a tool for communication between project stakeholders in weekly, monthly and quarterly meetings.
- Generate monitoring reports of the site progress using the schedule actual vs planned and approved baseline.
- 3D BIM model's visual clash detection and review along with the schedule progress.
- Construction simulations scenarios and comparisons.
- Material tracking and controlling.
- Site logistics simulations as per the information provided by Site project team
- Safety plans analysis and simulations as per the local official legislation and conditions provided by ASGC safety site team.
- Engineering progress monitoring and simulation to highlight the shop drawing approval stages, supply chain and processes.
- Plan and schedules time risk analysis as per the data supplied and provided by ASGC Site project team.
- 4D BIM documentation that includes the 3D / 4D BIM models received over the contract period, all project documents including RFI's, clash reports and logs will also be handed over.
- As-Built 4D Models for facility management.
- Integration with new technologies such as Mixed reality, drones, gaming engines and other technologies, which gives the project team a lot of solutions to understand and manage the project.

#### 4. Samples of ASGC 4D – Synchro pro output:

##### ❖ Dubai Arena Project:



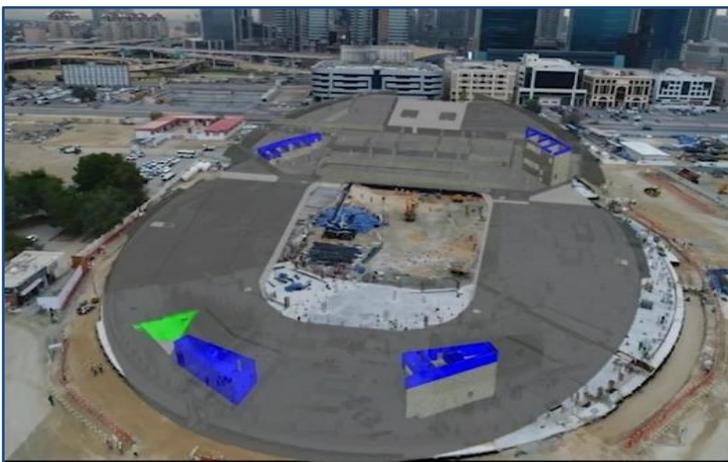
DUBAI ARENA 1 - BASELINE VS UPDATE



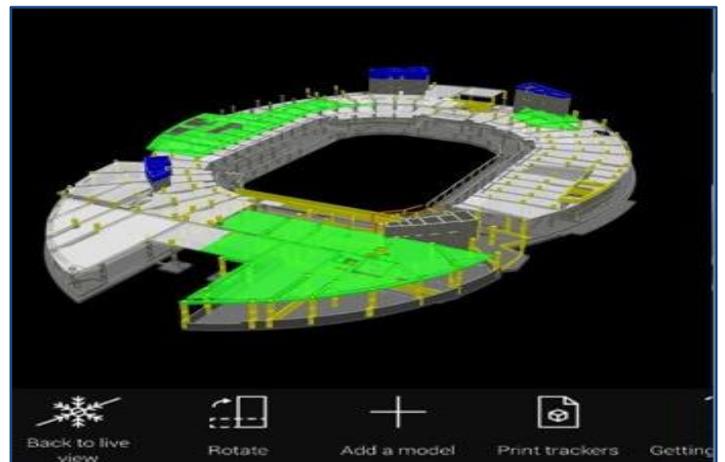
DUBAI ARENA 2 - GAMING 4D SIMULATION



DUBAI ARENA 3 – AR 4D SIMULATION



DUBAI ARENA 4 – INTEGRATING THE 4D SIMULATION AND DRONE

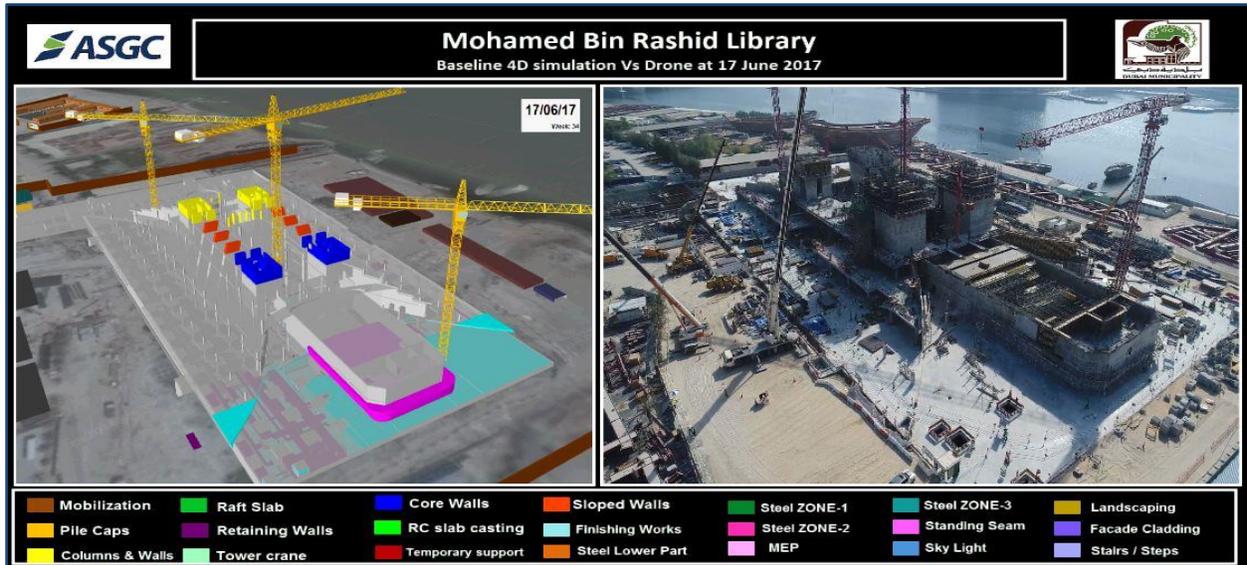


DUBAI ARENA 5 – VR 4D SIMULATION

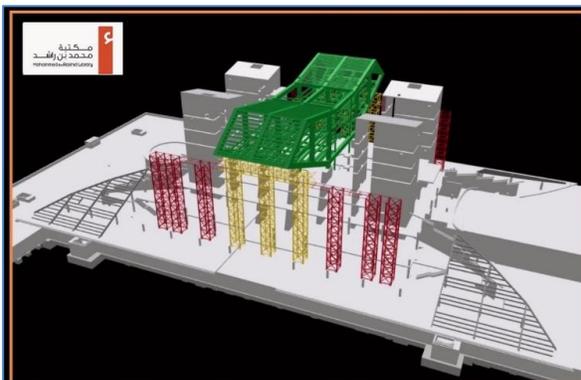
## ❖ Mohammed bin Rashid Library project:



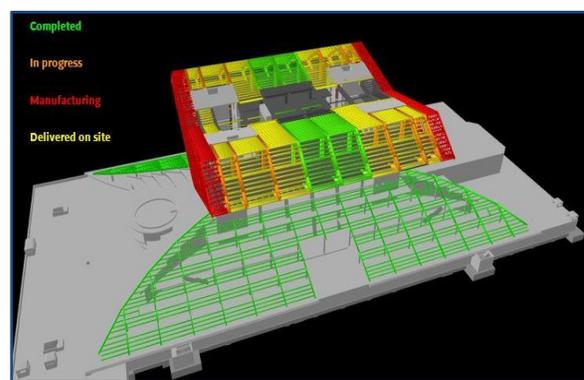
MOHAMMED BIN RASHID LIBRARY 2 - BASELINE VS UPDATE SIMULATION



MOHAMMED BIN RASHID LIBRARY 1 - MOHAMMED BIN RASHID LIBRARY 1 - BASELINE SIMULATION VS DRONE SHOOT FOR THE SAME DATE



MOHAMMED BIN RASHID LIBRARY 3 – SAFETY STUDY FOR TH SCAFFOLDING LOCATIONS



MOHAMMED BIN RASHID LIBRARY 4 - STEEL STRUCTURE MATERIAL TRACKING USING SYNCHRO