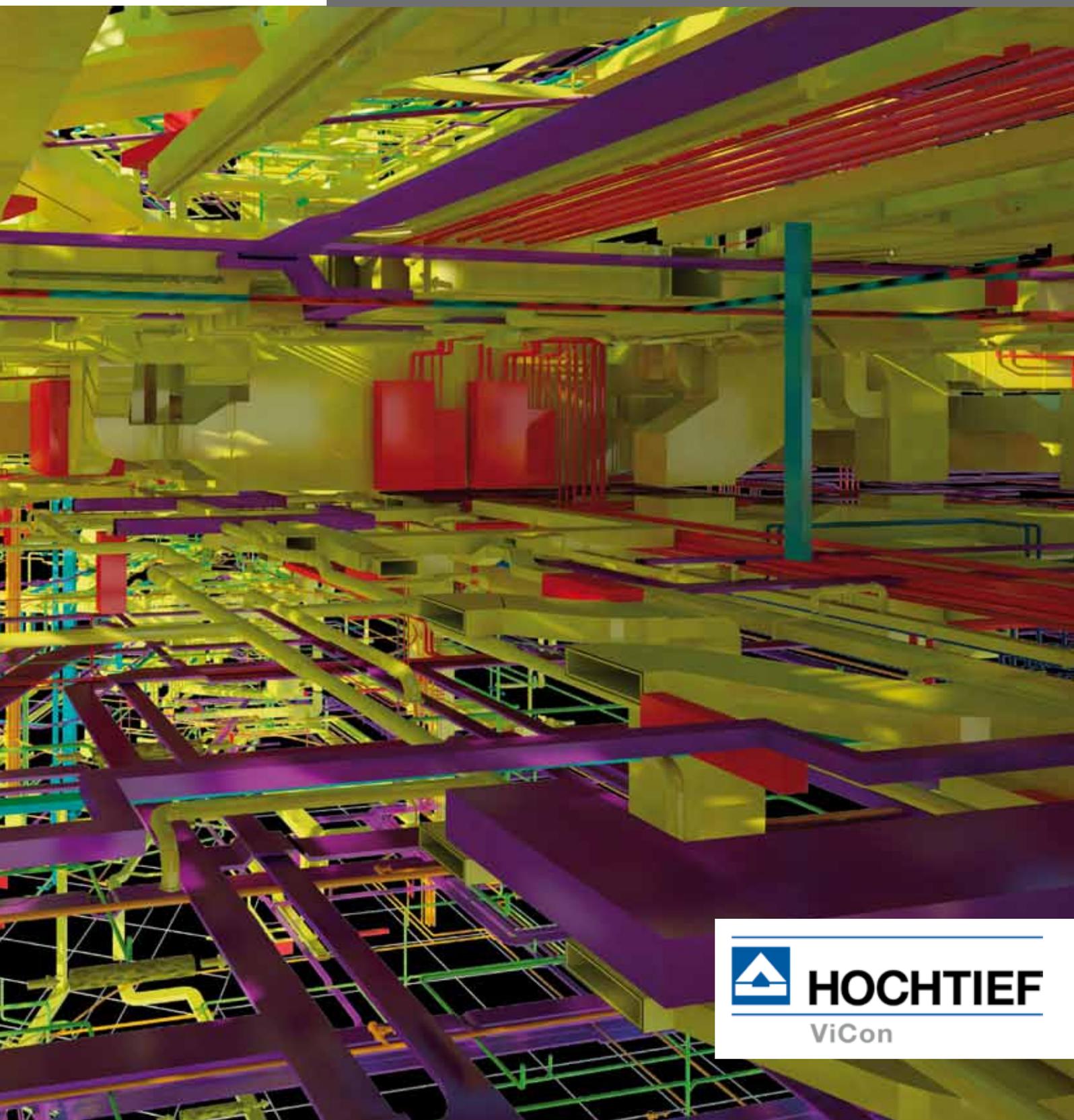


ViCon Dimensions

Autumn 2010



HOCHTIEF

ViCon

Build digitally first.

Company Profile

HOCHTIEF ViCon

HOCHTIEF ViCon is an innovative system provider for process and technology management in the virtual construction sector. Through our research activities and our service portfolio we cover the entire value added chain within construction projects. Since 2004 HOCHTIEF ViCon has successfully conducted more than 400 Projects.

“Virtual Design and Construction” (ViCon) refers to planning and

simulating the processes of constructing and operating a building through using personal computers.

Symptomatic for HOCHTIEF ViCon is the continuous utilisation of three-dimensional digital models which are assigned to various fields of application throughout the whole life-cycle of a building. The new industry related term for this procedural method is Building Information Modelling (BIM).

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Foreword

Prepare your future with BIM

Dear Clients,

We are happy to see that Building Information Modelling (BIM) is successively being adopted throughout the construction industry worldwide. BIM is our business. The continuing success of our client projects using BIM processes encourages us to be on the right track.

The models we develop include more and more valuable information about the facility during design, construction and operation. The project teams learn fast how to use the models to support their daily work. Therefore, I am convinced that these new technologies will be a standard in the near future for the entire industry.

Our company has already reacted on the profound growth in this field and founded a new subsidiary in Doha, Qatar at the beginning of this year, responsible for the Middle East and North African market. It will also support the international focus of HOCHTIEF ViCon and gives us a multi cultural experience. The Middle East and especially Qatar demand latest technologies such as BIM to support their ambitious construction projects. Using BIM is not enough: people here want to become the leaders in these new methods.

Due to the fast growth of BIM we want to inform our clients about our newly developed products, processes, definitions and projects. This newsletter will be created regularly to give you an overview of major activities in our company, and on our client's projects. In addition we would like to give you an outlook on latest market trends.

I would be grateful for your comments on this newsletter to support our continuous improvement process and to make sure we meet your expectations.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Schumann', with a stylized flourish at the end.

René Schumann
Managing Director
HOCHTIEF ViCon Qatar W.L.L.

BIM Definitions

It is more than just 3d models

BIM is a very modern way to manage construction projects and it is becoming an international standard. The technology was adopted from other industries like automotive or aircraft in which it is already used for many years.

HOCHTIEF ViCon defines Building Information Modelling as “creating 3d models, adding information to them and use it for many business purposes.”

Creating 3d models using “BIM software” is often misunderstood as “doing BIM”. But it is more: BIM is an abbreviation for business and collaboration processes supported by a 3d model linked with required information from different project groups. It has a positive effect on business processes through the whole lifecycle of a project, from early design phase to long term operation.

To ensure that all valuable data is considered, the project management has to include as many stakeholders as possible into the process of creating and using BIM. The following data is often linked to a 3d model:

- Construction progress information
- Bill of quantities
- Costs
- Space utilisation
- Scope of contractors

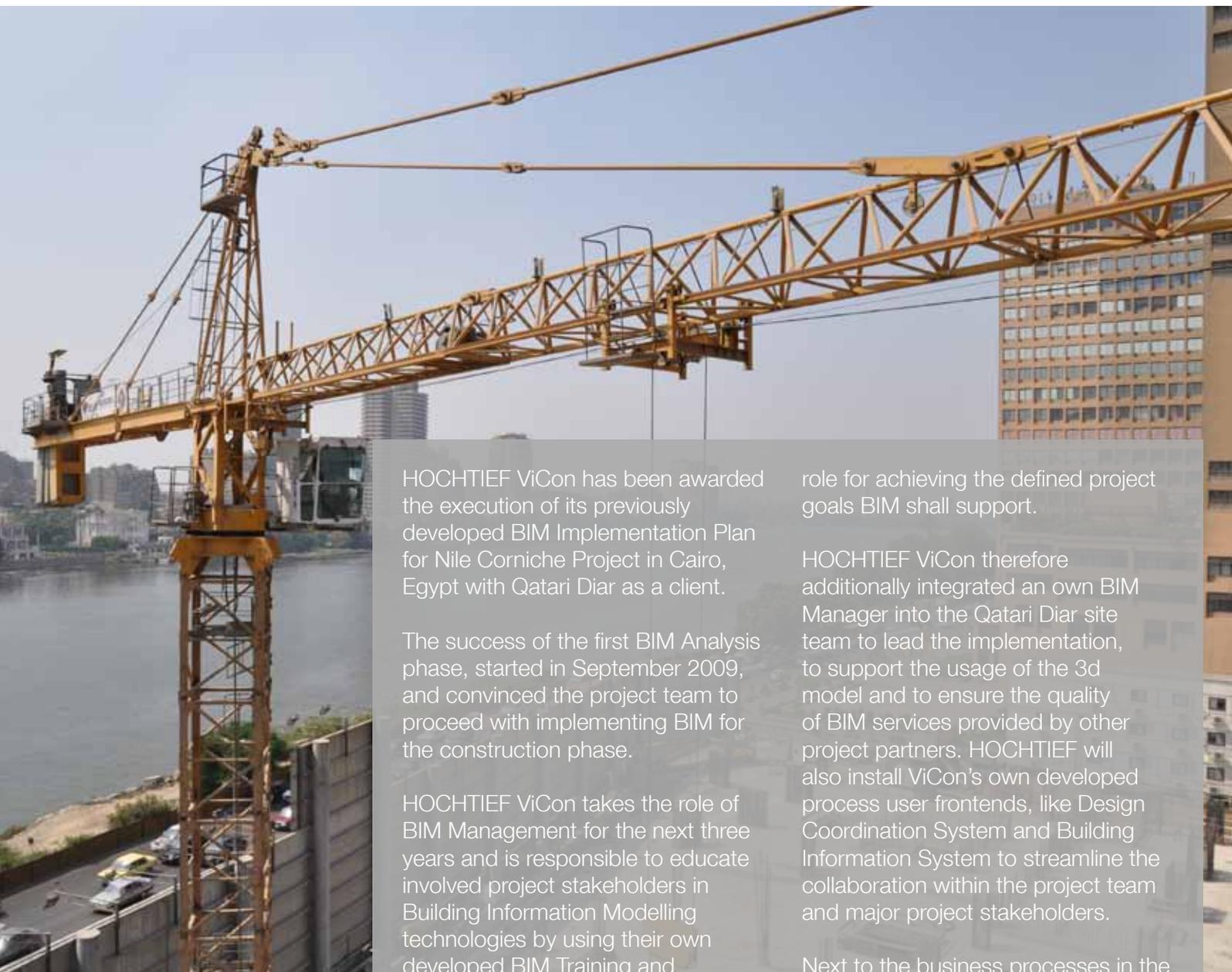
A 3d model linked with the aforementioned data can be used to enhance progress and cost monitoring, validation of construction programmes and design coordination. It provides a traceable view on building information, a transparent design status and enhances the data exchange between all involved parties.

The major proven benefits in the AEC industry are improved collaboration, accelerated decision making and improved communication within the project team. Many common risks in construction are tackled through BIM methodologies.

The AEC industry attaches a great importance to BIM and it is changing the traditional working methods. Therefore a structured project specific BIM implementation is essential to ensure successful integration.

Design study for the
Munich Main Station,
Germany





Site works at the Nile
Corniche Project Site, 2010,
Egypt



HOCHTIEF ViCon has been awarded the execution of its previously developed BIM Implementation Plan for Nile Corniche Project in Cairo, Egypt with Qatari Diar as a client.

The success of the first BIM Analysis phase, started in September 2009, and convinced the project team to proceed with implementing BIM for the construction phase.

HOCHTIEF ViCon takes the role of BIM Management for the next three years and is responsible to educate involved project stakeholders in Building Information Modelling technologies by using their own developed BIM Training and Certification System.

The BIM model will be especially developed to support the business processes of Design Coordination, Quantity Surveying, Progress Monitoring, Cost Monitoring and Project Marketing. The required modelling standards (BIM Guidelines), responsibilities and BIM procedures have already been developed and agreed with the project partners.

The general contractor and the construction manager have got a key

role for achieving the defined project goals BIM shall support.

HOCHTIEF ViCon therefore additionally integrated an own BIM Manager into the Qatari Diar site team to lead the implementation, to support the usage of the 3d model and to ensure the quality of BIM services provided by other project partners. HOCHTIEF will also install ViCon's own developed process user frontends, like Design Coordination System and Building Information System to streamline the collaboration within the project team and major project stakeholders.

Next to the business processes in the construction phase, Qatari Diar wants to manage the project associated information as early as possible to prepare the long term project operation and to gather maximum benefits by reusing the data.

The project comprises a hotel and a residential complex, which has recently begun construction at the banks of the Nile River. On track to be one of the most exclusive locations in Cairo, it will contain luxury hotel rooms, apartments and a suite of large function areas and ballrooms.

Project Update

Nile Corniche Project



ViCon Training and Certification System

The success of BIM in any project is through collaboration and communication between stakeholders, without training and development, this cannot happen.

BIM is a growing and innovative field in the construction market, and it is of great importance for companies in the AEC industry to gather knowledge and experiences to reach its full potential on a construction project.

Software vendors can mostly provide training for their systems only and the education on the new defined project processes is often not a part of that training. Therefore, we developed an innovative Training and Certification System which can be adapted on the project specific BIM approach.

HOCHTIEF ViCon encourages the involvement of project members in education courses which we provide both on and off site. The responsibility of each project stakeholder is defined and the capabilities enable a nominated team member to obtain the required experience and knowledge to use BIM successfully.

The required training for each project position is categorised using our trainee certification belt system.

The belt system primarily defines three different levels, from the user grade to the technical expert.

The training led by HOCHTIEF ViCon is a modular system, tailored to the requirements of an individual project, as well as to individual personnel, depending on their previous experience. HOCHTIEF ViCon is even able to provide a committed and personalised training programme for the role of a BIM Manager, Engineer and Modeller containing a definition of responsibilities within the project.

Each training session ends with an exam. This allows project members to become familiar with BIM related tools and processes and to use them during everyday site activities.

HOCHTIEF ViCon offers the BIM training and certification for your project team independently from other ViCon services, that enables a high flexibility for your tailored BIM approach.

ViCon Dates in Quarter 4, 2010

04.10	Expo Real Exhibition - Exhibitor, Munich, Germany
11.10	ENCORD Virtual Construction Platform - Paris, France
28.11	3 rd Annual Urban Waterfronts 2010 - Speaker, Doha, Qatar
31.12	ViCon 3d BIS Combined Viewer V1.0 - product launch

Market News

BIM Goes Mobile

goBIM was launched in January 2010, allowing designers and engineers to take their 3d BIM models anywhere they go.

With the launch of the iPad, the power of the App to view larger scale models has improved considerably. The application can navigate through models up to 4MB in size and is primarily a web based tool.

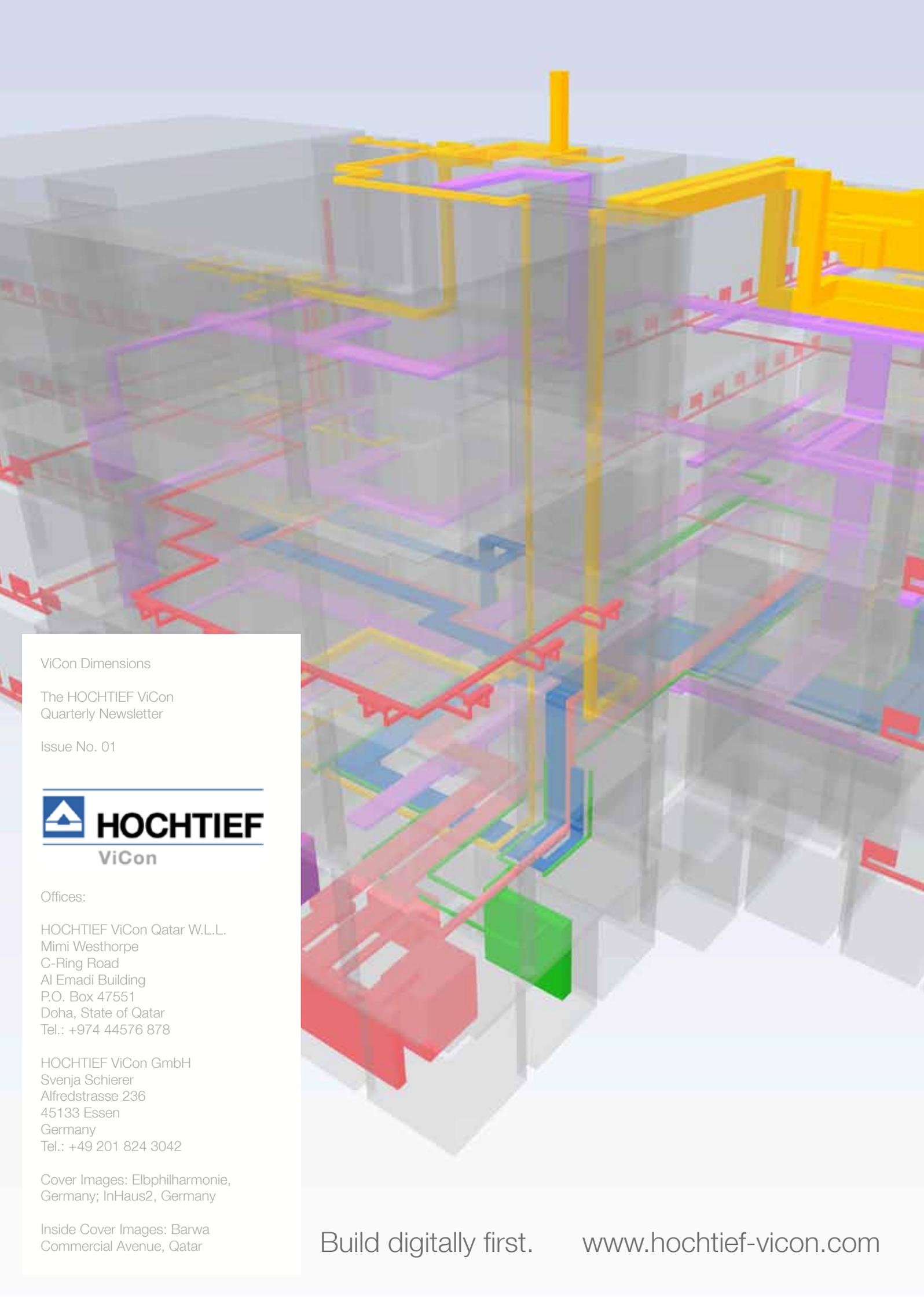
This may be limiting for large scale projects; smaller models or model sections will be easy to navigate.

Although there are several 3d model-viewing applications on the market, goBIM is the first to enable users of an iPad or iPhone to review tagged data which has been linked to model elements. This includes materials, manufacturer and volumetric information among others.



The App will help to drive productivity in building design and construction, and encourage the design and construction industry to move towards BIM.

With the rising numbers of iPhone and iPad users worldwide, the ability for goBIM to provide access to models and linked data on site at all times has advantages for the design and construction industry.



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