

# Goldin Properties Holdings Limited

## Project:

Tianjin Goldin Metropolitan –  
Central Business District (CBD)  
Phase 1

## Location:

Tianjin CBD, PRC

## Type:

Office/Hotel/  
Service Apartment/  
Entertainment

## Scheduled Time of Completion:

End 2015

# Mastering a Complex Project



As Goldin Properties began a complex project, featuring a 117-storey building topped by a diamond structure, they deployed BIM to help make the design process smoother. After proving a boon in early design work, the BIM model looks destined for use throughout the lifetime of the buildings.



## Major complex features landmark building

Goldin Properties is developing the “Tianjin Goldin Metropolitan”, a complex combining a Central Business District and community development, together with an international polo ground. At its heart is a building dubbed 117 – which with a planned 117 floors will have a height of 597 metres, making it a landmark for Tianjin. “This will be the tallest building in north China, and would today rank as the world’s ninth highest building,” says Ir Raymond Chan, Senior Project Manager of Goldin Properties.

A six-star hotel will occupy floors 94-116 of the building; floors 7 to 93 will be for offices. “Below, there will be a podium and a 30-metre high lobby, along with a four-level basement,” says Ir Chan. “117 will have a diamond shaped structure on top, with a club inside – an observation floor will provide magnificent views of the surroundings.” Tianjin Goldin Metropolitan will also feature a theatre, serviced apartments, and two 50-storey towers.

## BIM for understanding the design

This is the first time Goldin Group has deployed BIM, and Ir Chan and colleagues learned of ways it could help them through



Central Business District, as the multiple elements make it especially complex. Even though the project is still in a relatively early stage, BIM is already proving helpful.

“We have held many coordination meetings between consultants, and the BIM model has helped reveal conflicts among different elements,” says Ir Chan. “The engineering and mechanical consultants find it especially useful for understanding and fine-tuning the design.”

### Creative use of BIM

One location the BIM model has proven its worth is the basement car park. The goal was for headroom of at least 2.8 metres. The structural consultant originally believed they had met this requirement, yet they learned otherwise after their data was used to create the BIM model – which revealed many clashes, with headroom often only 2.5 metres.

“The headroom study employed BIM in innovative way, using an imaginary ceiling at the height of the headroom,” says Ir Chan. The BIM team created a Reflected Ceiling Plan, with a false ceiling indicated by a thin band of colour. Any Mechanical & Electrical and

their BIM consultant WSP. “We were shown many advantages of BIM, and we’re using BIM for Tianjin Goldin Metropolitan as it’s a very complicated project with many elements,” says Ir Chan. “BIM can help everyone in project teams to make sense of the design, and ensure everything is in position. Plus, BIM can boost efficiency and improve control of project management.”

Without BIM, the project team would have to rely on traditional 2D drawings, and no one could really master and manage all information. The project would proceed with many uncertainties. For Tianjin Golden Metropolitan, use of BIM focuses on the



Structural elements appearing on the coloured ceiling area showed where the headroom was insufficient – making it easy to see where there were potential clashes.

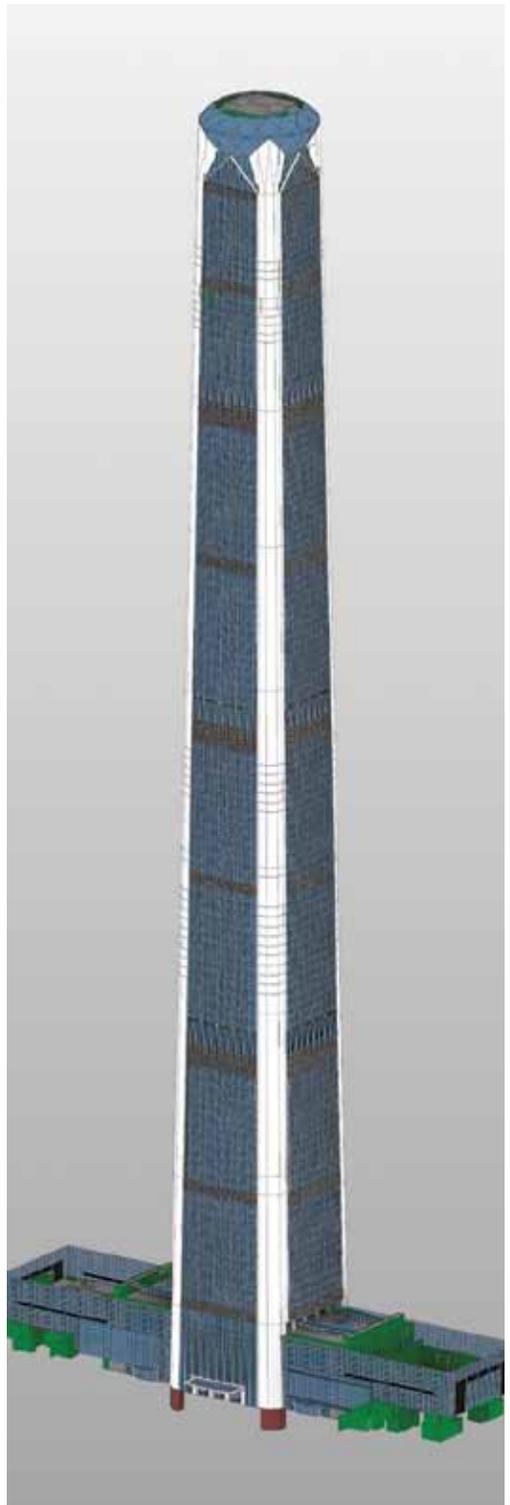
The team members could then review the BIM model, concentrating on assessing clashes in critical locations. They then agreed on the most realistic achievable headroom, and revised the design, such as by instructing the consultant to raise beams or lower air ducts in some places.

### 3D model for the life of the buildings

“Usually when we are working on coordination, and design modelling, it’s hard to visualise the whole picture,” says Elvis So, Project Manager, Goldin Properties. “Yet BIM generates this overall picture easily on a computer – making the design process smoother.”

The BIM model is proving its worth above ground, too, such as in coordinating elements of the extensive podium that will interconnect 117 with much of the Central Business District. Landscape designers who otherwise don’t know structure and Electrical & Mechanical can see the BIM model, and so understand how the site will appear, enabling them to create optimal landscape features.

The whole team, comprising members from disciplines ranging from structural to landscaping, is working closely together – achieving the goal of modern coordinated design, which was previously impossible with “sequential” design development. “BIM helps us find locations where construction won’t meet the design intent – giving us a chance to make modifications before construction,” says Ir So.





Though BIM was initially introduced to detect potential conflicts, the Goldin project team now considers it will prove powerful from the design stage to completion, and the whole BIM system can be passed to future operations.

“If the contractor wants, they can apply BIM to construction – so they can visualise the construction process,” notes Edmond Ting, Executive Director, Goldin Properties. “We will also use the BIM model for safety and property management. If a tenant moves out, the new owner can input their amended layout to the BIM model, which can be maintained for the life of the buildings.”





## ABOUT GOLDIN PROPERTIES HOLDINGS LIMITED

Goldin Properties Holdings Limited “Goldin” (formerly known as Matsunichi Communication Holdings Limited) is a premier property developer specialising in Mainland property market. It is listed on the main board of the Stock Exchange of Hong Kong Limited (HKEX) (Stock code: 00283). The Group’s headquarter is in Hong Kong.

Goldin commenced property development business since 2007. To align with the robust growth of the Chinese economy, the Group has been focusing on the high-end properties market. As a premier developer of quality properties, Goldin is currently developing a world class metropolis in Tianjin.

Apart from actively pursuing the development of this mega project in Tianjin, Goldin is always looking for suitable sites in other mainland cities with good development potentials to increase for its land bank. The economic growth potential of various cities is the Group’s prime consideration in formulating its plan to develop property projects in China.

In return, this offers tremendous driving force for Goldin to build the most suitable accommodation to meet with the clients’ expectation.