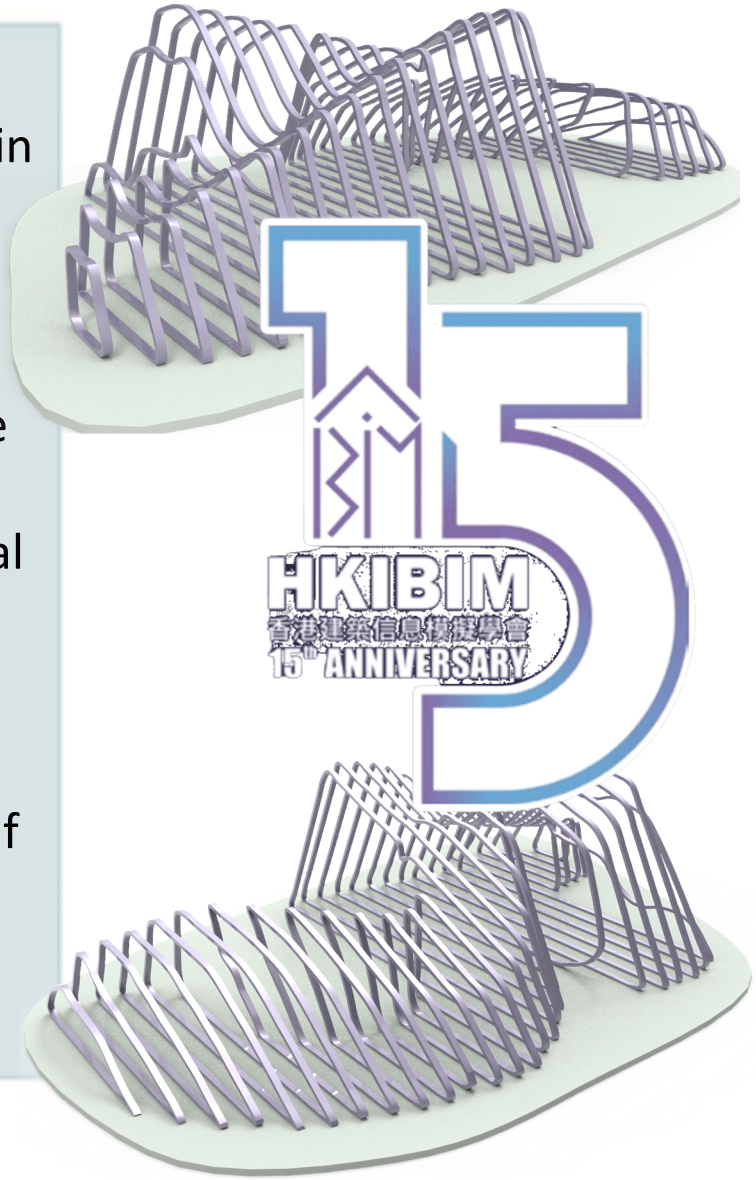
HKIBIM BIM Automation Arena 2025
Question for Master Challenge Category

The Background

The HKIBIM is going to create a 15th Anniversary Memorial Hall cum the Hall of Fame for the winners in this event in a Digital Twin powered by **NTT Ocean** platform.

The institute would like to invite the applicants in the Master Challenge category to design the building facade with cladding/ curtain wall, PV panels, vertical greenery, feature lighting, indicative layout and IoT sensors for the hall.

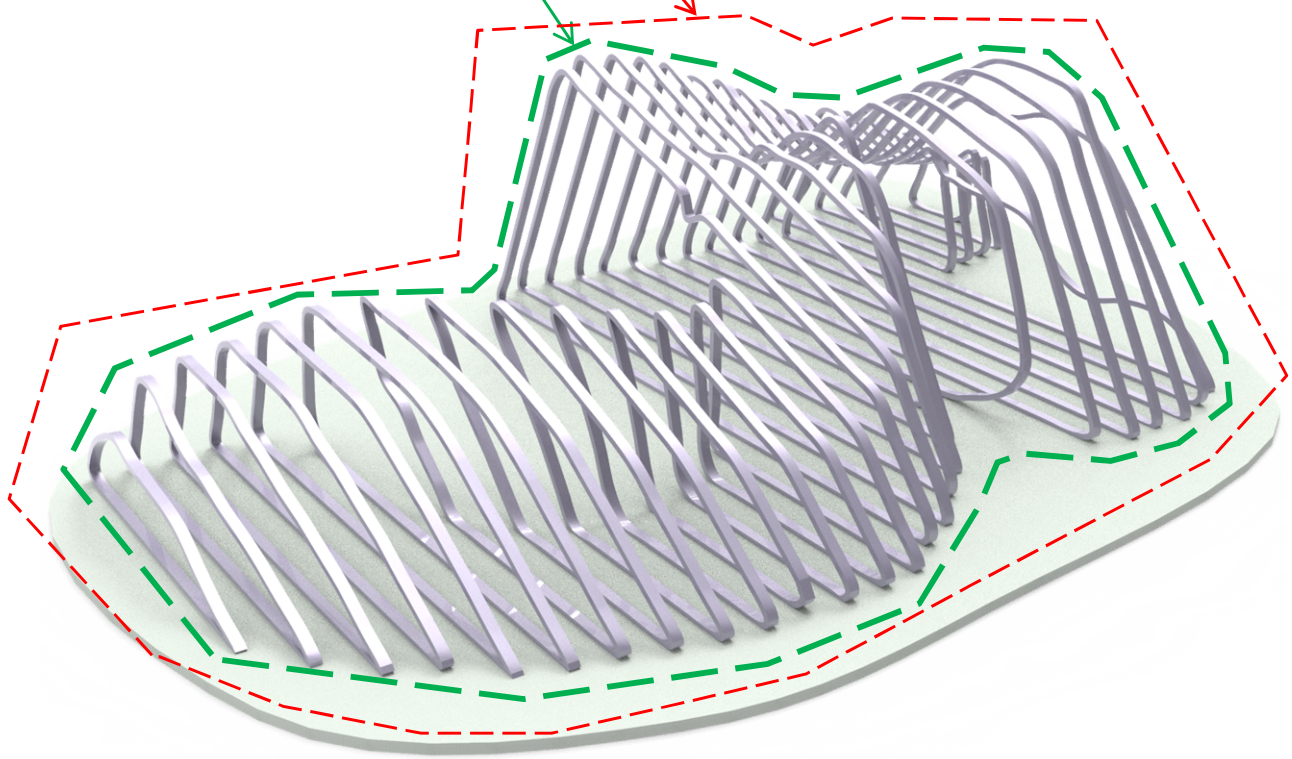
The Institute would adopt the design of the winner of this category. The winner is required to support the institute in building of a Digitial Twin in NTT Ocean platform after the event.



The Design Intent

Building Facade (To be designed by the applicants)

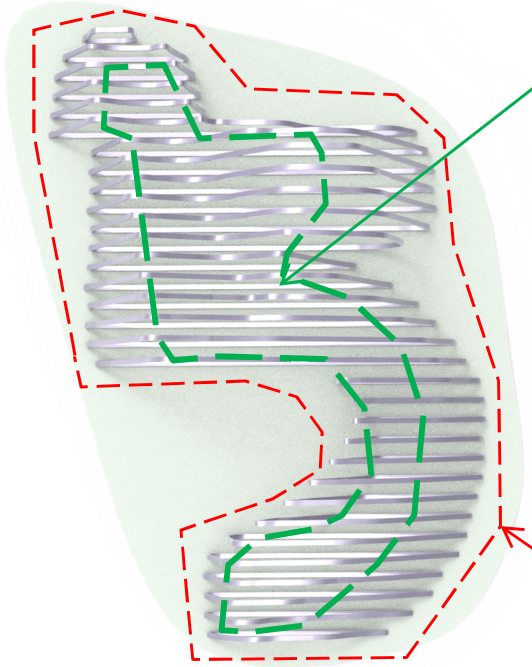
Internal Envelope (Provided by the Institute)



Download link for this design intent model in dxf and Ifc formats

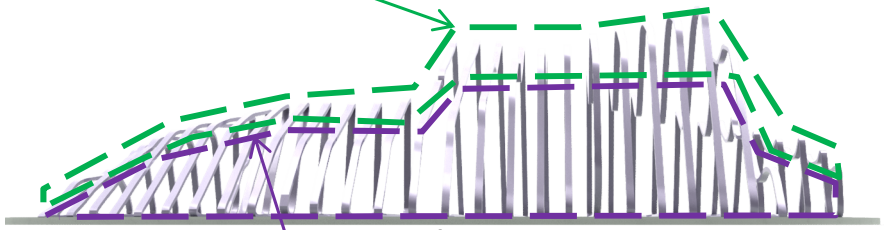
https://drive.google.com/file/d/1pdkM1LfpdxThFaV3U7Z_xgKnFCQtw93E/view?usp=drive_link

The Design Intent of the Cladding/ Curtain Wall, PV Panels, Vertical Greenery & Feature Lighting



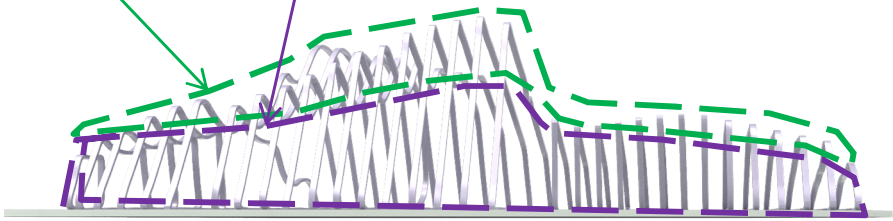
Plan View

Area for PV Panels mounted on top of the building facade (To be designed by the applicants)



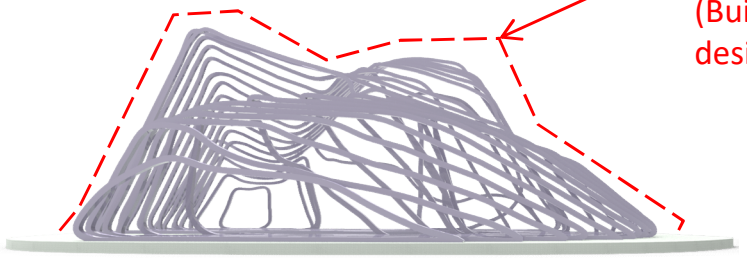
Right View

Areas for vertical greenery and feature lighting mounted at two sides of the building facade (To be designed by the applicants)

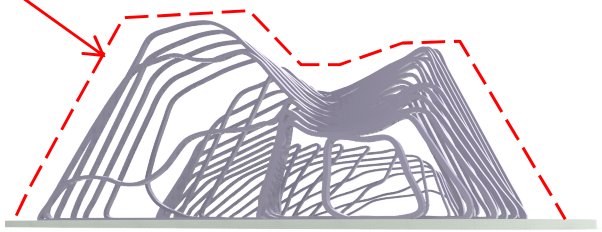


Left View

Cladding / Curtain Wall (Building facade to be designed by the applicants)



Front View



Back View

The Submission

A. Parametric Modelling

- Design and create a BIM model for the **building facade** which should include **at least one** of the following components:
  - Cladding / Curtain Wall;
  - PV panels;
  - Feature lighting;
  - Vertical greenery.
- The final BIM model should include the **Internal Envelope.**

B. Automatic Element Generation

- In each of the components, applicants are required to optimise the design of the components by maximising the repeatability of the shapes/ sizes/ types of the components mentioned in Item A.

The Submission

C. Automatic Drawing Generation

- Produce drawings with clear annotations to show the optimisation of the component design;
- Automatic tagging and systematic element numbering.

D. Data Interoperability (openBIM)

- Demonstrate that the graphical data and essential non-graphical data are interoperable with other software compatible with openBIM workflows.

E. Demo Video for Item A to D

- Submit a **video clip** demonstrating the end-to-end automation process (no time limit) on or before **15th February 2025**, after the challenge question has been issued by the Organiser in early January 2025.

The Finalist's Presentation

1. The Battle Day: 7 March 2025

2. The BIM Legendary Championship[1, 2]: 28 March 2025

Notes:

1 The finalists should adopt the **critical dimensions** of the Internal Envelope including as the **width, height** and **length** which will be adjusted and released to the finalists within **one week** before 28 March 2025.

2 Each finalist will be required to install their solution and software on a **Virtual Machine (VM)** for the presentation, with a user account will be provided by an event sponsor. Details of how to set up the VM will be announced in due course.

The Submission

F. Digitial Twin for the Hall of Fame Powered by NTT Ocean Platform

1. **Design and provide a 3D model in an open data format for NTT Ocean platform**

   (To be sumitted before **7 March 2025**).

   - Design an indicative layout for the Hall of Fame, main lobby, washrooms and corridor leading to the entrance;
   - Design the locations of IoT sensors using dummy objects;
   - Types of IoT sensors shall include temporary & humidity sensor, IAQ sensor, motion sensor.

2. **Post-event support to NTT in building the Digital Twin for HKIBIM**

   (Within **3 months** after the event)

   - Revise and update the 3d model mentioned in Point 1 to support NTT in setting up the Digital Twin in Ocean platform;
   - The cash prize to the winner will be released when the Digital Twin setup is completed.

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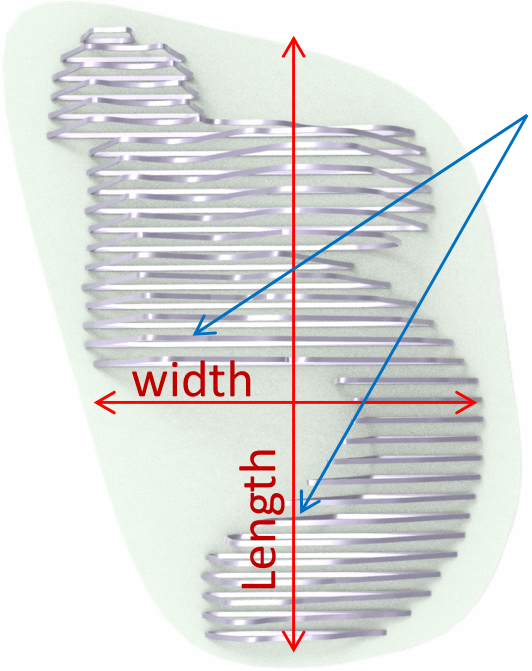
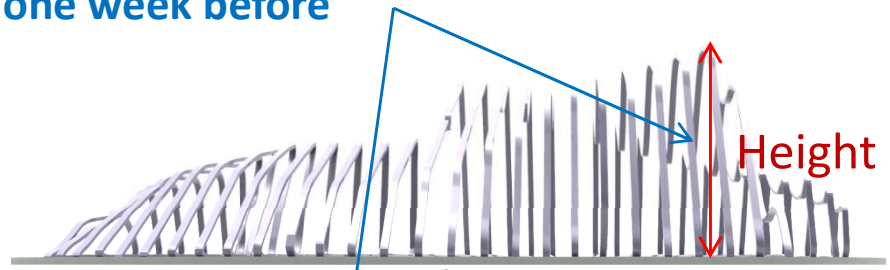
BIM Legendary Championship on 28 March 2025

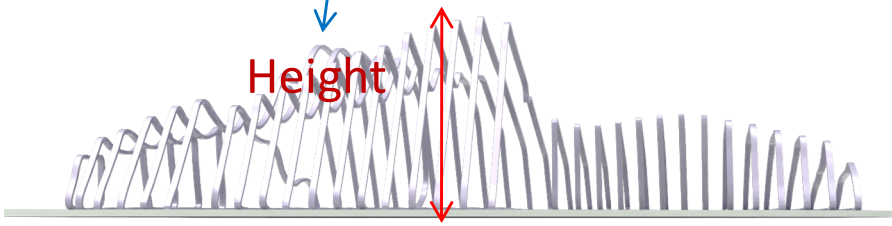
The Critical dimensions to be adjusted and provided within one week before 28 March 2025



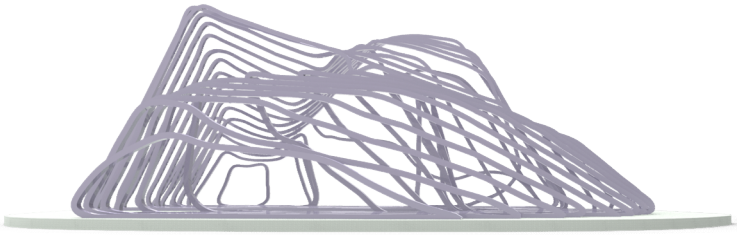
Plan View



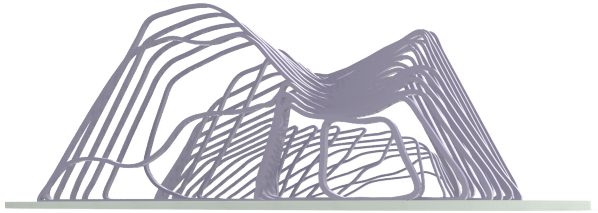
Right View



Left View



Front View



Back View

Assessment Criteria

1. **Aesthetic appearance (25%)**
   - **Landmark and Harmony (i.e the design blends in with the theme of the 15th anniversary of HKIBIM.)**

2. **Design optimization (30%)**
   - **Modularisation and Sustainability (i.e. demonstrate reduction of waste and energy.)**

3. **Process Automation (15%)**
   - **Modelling and Drawing Generation (i.e. demonstrate enhancement of efficiency and productivity.)**

4. **openBIM and Digital Twin Powered by NTT Ocean Platform (30%)**
   - **Data interoperability (i.e. demonstrate that the design model and data can be read by other openBIM software.)**
   - **3d model for setting up the Digital Twin powered by NTT Ocean platform**

Notes:

1. Bonus Marks will be given to HKIBIM Member(s) in a project team – 5%
2. Bonus Marks will be given if the applicant is willing to share their workable solutions through HKIBIM Apps Store and to the public – 10%