



For digital nomads...



Modern life and mobility
go one by one together.



MOBILE ARCHITECTURE

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The mobile word and
action reflect the spirit of
our time.



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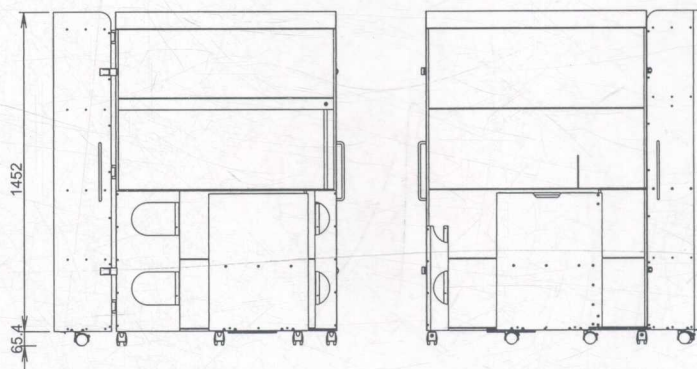
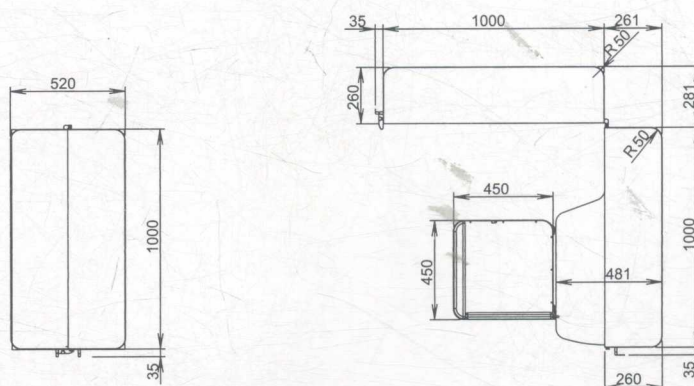
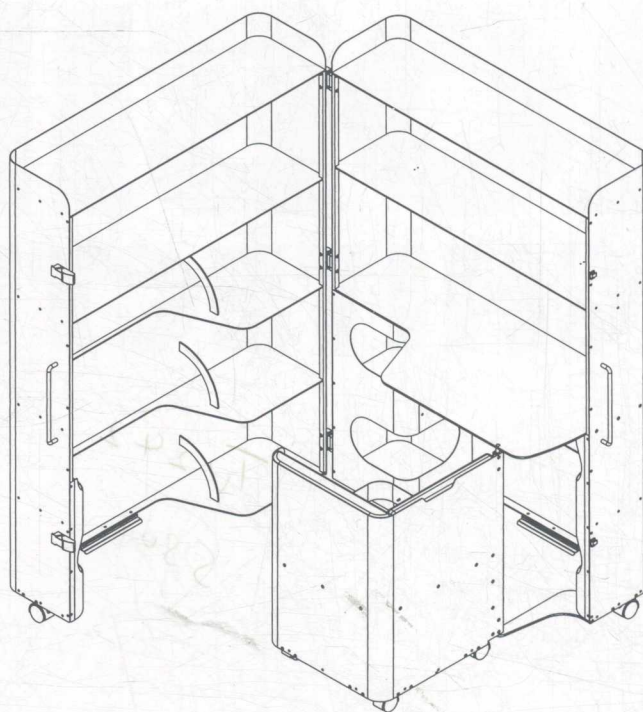
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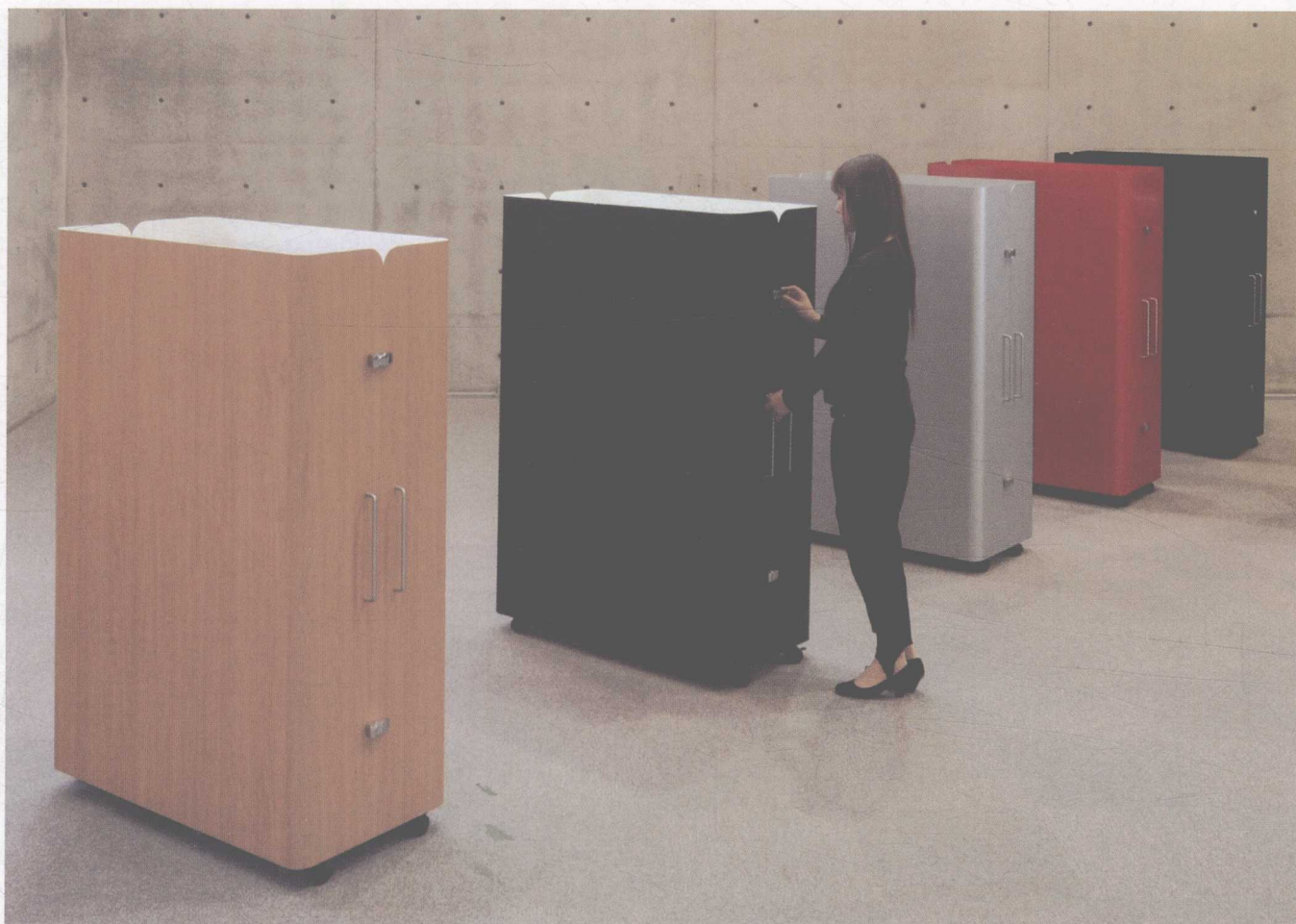
MOBILE ARCHITECTURE

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藏书章

KENCHIKU-KAGU ALUMINUM: FOLDAWAY OFFICE

Architect: Toshihiko Suzuki |
Manufacturer: Shanghai Tailong
| Motorcar Ornament Co., Ltd.
| Equipment: 1 desk, 5 shelves,
3 storage spaces, 1 chair, 3
outlets, 1 LED light | VWeight:
80kg | Dimension: (close) 520
x 1000 x 1518(H) / (open)
1281 x 1261 x 1518 (H) |
Material: aluminum | Design:
2009

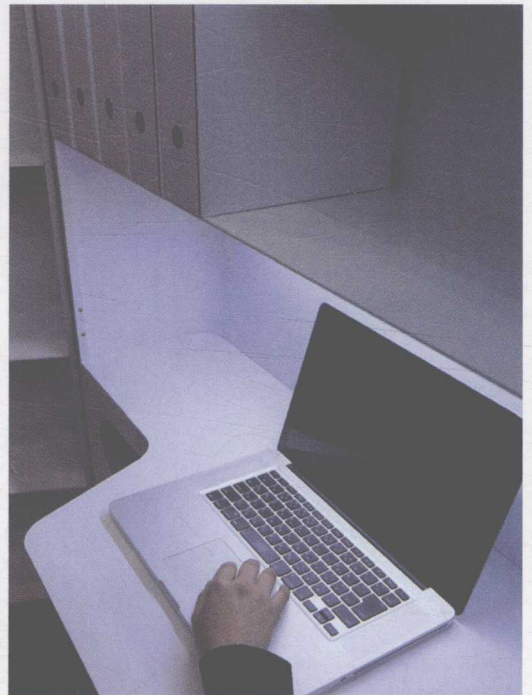












Why “mobile architecture”? What significance does it have in the contemporary architecture?

: IKEA founder Gillis Lundgren famously decided to sell disassembled furniture which the customer could easily fit into their car and assemble at home. IKEA's hugely successful business model is not only convenient for customers, but it also enables the company to efficiently ship inexpensively manufactured products from their global supply chain to a world-wide network of warehouse superstores. Mobility drives the IKEA business model.

New construction technology is expanding the flat-pack concept to the architectural scale. Laminated timber panels are manufactured in Austria in sheets up to 200mm thick, 3 meters wide and up to 16 meters in length. Panels are CNC cut directly from the architect's digital design data. The designer is liberated to cut almost any shape with millimeter accuracy. The building can be entirely pre-cut, flat-packed, and shipped to site. Floors and walls are stacked upon one another with the aid of a crane, making construction extremely fast and reliable for a small team of workers.

Our Timber Café takes the flat-pack concept to another level, cutting the building components and furniture simultaneously from the same sheet. This not only eliminates waste, the tessellated window cut-outs express the building's manufacture and novel furnishing concept. Assembling the range of furniture from this kit of parts inextricably links it to the building.

How important is “mobile architecture” in your architectural practice?

: Mobility is one design tactic we use to exploit temporary building opportunities. For example, during the economic downturn, many large construction projects have been put on hold, leaving developers sitting on sites without a means to recoup their stalled investment. With projects like Timber Café, we are designing innovative solutions for these types of problems. The structure can be temporarily deployed to rapidly generate activity, and thus revenue, on an otherwise nonperforming urban plot of land, bridging an unforeseen gap in the development's cash flow.

What is the most important element (or strategy) in your mobile works?

: Computer-aided manufacturing combined with global logistics means that a building can be reliably prefabricated, shipped to site, assembled and dismantled accurately and efficiently at relatively low cost. This strategy is a form of mobility, because the structure is demountable and construction is replicable and radically quick.

The structure is also robust and self-supporting, relieving the need for permanent foundations. It can be easily disassembled, repacked, shipped for re-use anywhere throughout the world, making it ideal as a touring exhibition venue or pop-up retail outlet.

Prefabrication also overcomes challenges associated with building in foreign locations, particularly where language or local building expertise are problematic. Using this design strategy, a building can pop-up in almost any location.

Global trade is unitized by the ubiquitous shipping container. There are numerous projects that have utilized



BAKOKO

or adapted these ready-made vessels, however, we still think that it makes sense to using shipping containers for the purpose they were intended (i.e. shipping) whilst maximizing the deliverable volume they can contain. We are eager to work with massive timber panels because design and construction is radically simplified. It also facilitates creativity within our digital work flow. Importantly the massive timber construction is carbon negative. Should the building be eventually destroyed, the timber could be burned, releasing energy in a manner that is carbon neutral.

What are the most common mistakes or difficulties in working on the mobile projects? Please tell your episodes.

: The building is flat-packed into a 40' shipping container and shipped to each site. This restricts the maximum dimensions of each element and limits the overall size of the structure to the capacity of the standard container. When designing the building, one must also consider how the elements will pack for shipment.

There are also regulatory issues that pertain to buildings, but not temporary structures. Legally, this is often a gray area and presents new regulatory negotiations at each new location.

Will you keep working on your mobile works in the future? If so, anything new you would like to try in the next mobile project?

: Mobility is becoming more important issue in light of social networks and digital tools that allow users to temporarily create or appropriate spaces on the fly. Technology is inverting the mantra "location, location, location" by disassociating activities from dedicated physical structures.

BAKOKO will continue to explore mobility where this solution appropriately fits a stated problem, exploits unique circumstances, or otherwise helps our clients leverage additional value.



BAKOKO is an emerging Tokyo design practice. Founded in 2009 by Architectural Association (AA) graduates Kayoko Ohtsuki and Alastair Townsend, the office strives to carry out work that is fresh, resourceful, and innovative. Globally, the biggest challenge clients and architects face is learning to speak a common language.

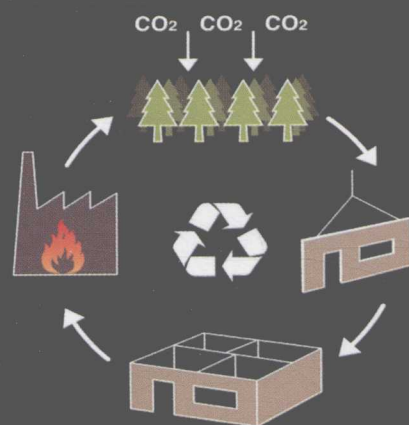
BAKOKO is a multilingual office. Our international viewpoint imparts novel insights and flexibility when sitting down to think with our clients about the core questions they face. In short, our ideas don't get lost in translation.

Working in Japan is inspirational. Our work is immersed in the meticulous craft, abundant technology, and playful inventiveness we find all around us. Built on a model of collaboration with entrepreneurs, developers, private clients, and other architects, BAKOKO offers unique design skills that distinguish their involvement in large to small projects.

www.bakoko.jp

TIMBER CAFÉ

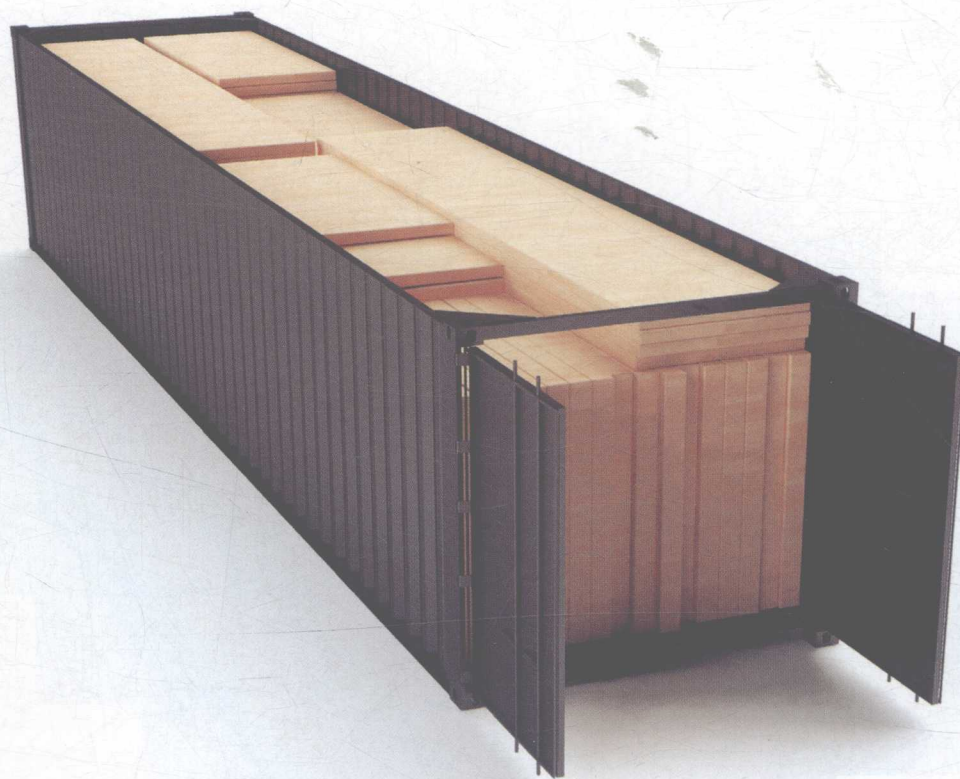
Architect: Kayoko Ohtsuki,
Alastair Townsend | Location:
Japan | Use: restaurant, cafe,
retail space, exhibition venue
| Dimension: 16m x 4m x
4.4m (64m²) | Material:
(structure) massive timber
panels / (glazing) cellular
polycarbonate | Design:
August 2010



1Kg Concrete + 1Kg CO2

1Kg Steel + 1.5Kg CO2

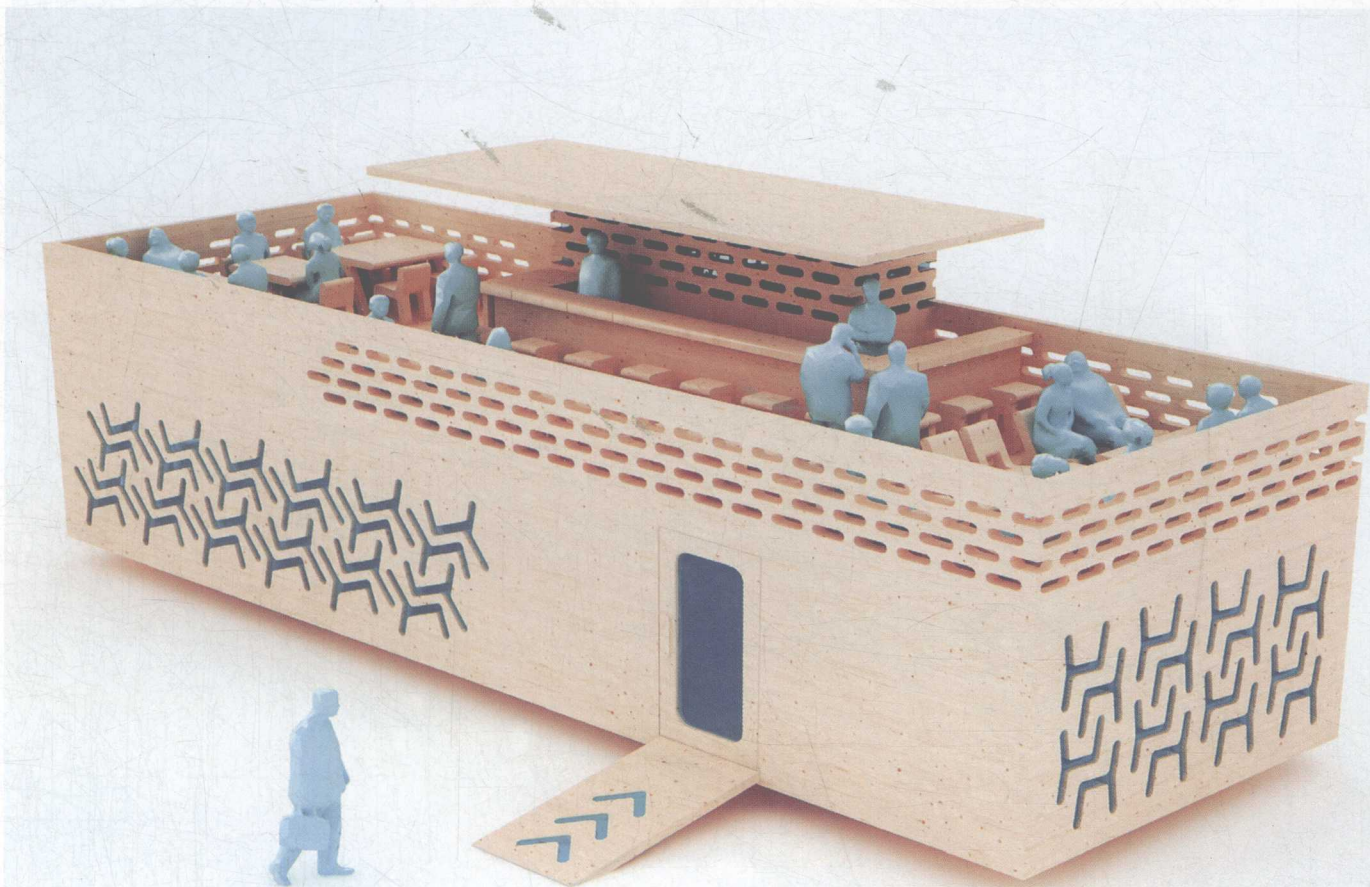
1Kg Timber - 2Kg CO2

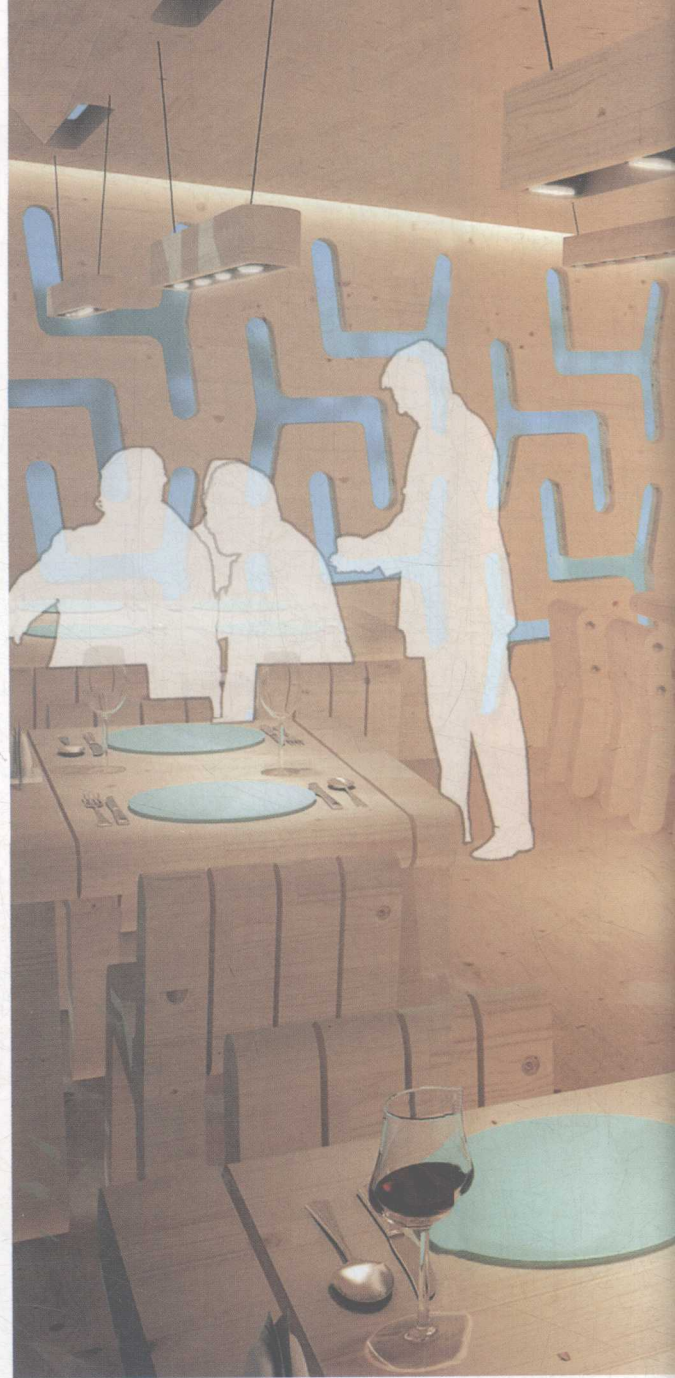


Furniture and architecture are cut from the same cloth in this proposal for a sustainable pop-up restaurant. Massive timber panels are a carbon negative alternative to steel and concrete construction. Sustainably-farmed timber offcuts are laminated in European factories into panels 3 meters wide by up to 16.5 meters in length. Ranging in thicknesses up to 250mm, the panels are robotically trimmed to the designer's CAD drawings. Entire walls are cut in one piece and openings for windows and doors can be cut out in almost any shape. Once cut, the panels can be flat-packed for shipment worldwide.

BAKOKO's pop-up timber café which takes advantage of solid timber's unique benefits. The temporary building can be flat-packed into a standard 40' shipping container and erected with a crane in a mere day. Once assembled, this wooden box is remarkably self-stable. It does not need a permanent foundation, making it suitable almost anywhere.

In order to minimize waste, BAKOKO has designed the restaurant's seating and tables to be easily assembled from parts cut from the timber panels. The empty cut-outs become the window openings, bringing light into the restaurant. If the restaurant needs to be re-packed, the furniture can be easily disassembled and re-inserted into the walls.

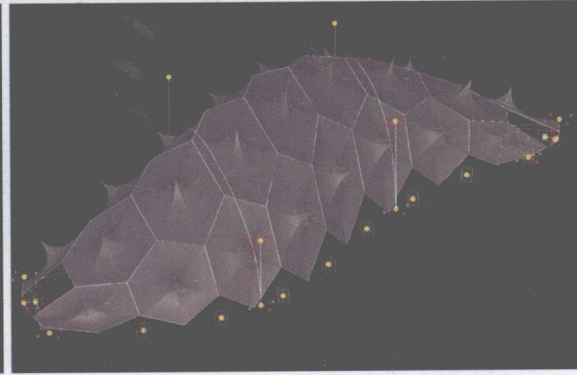
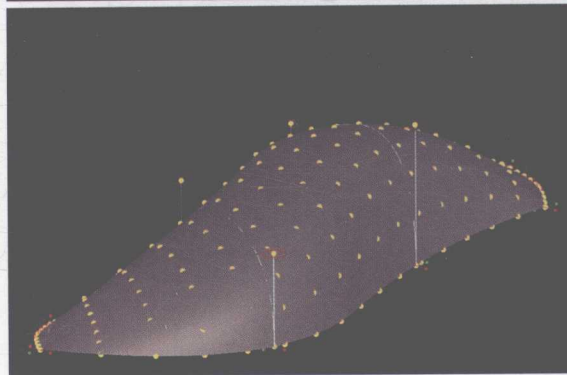
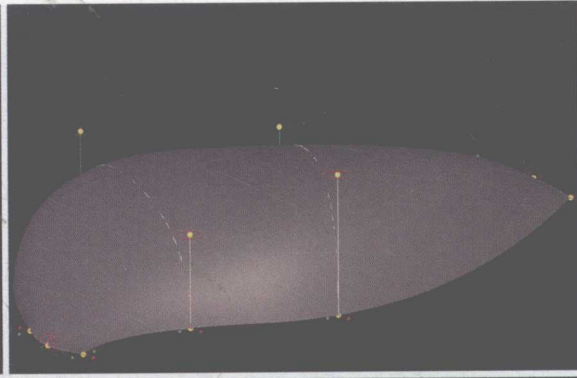
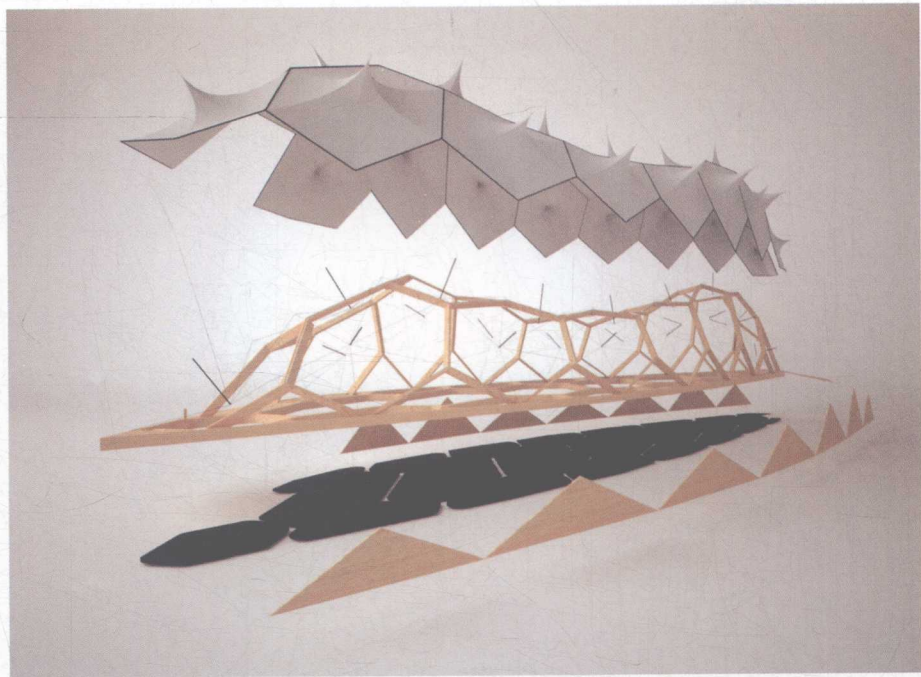


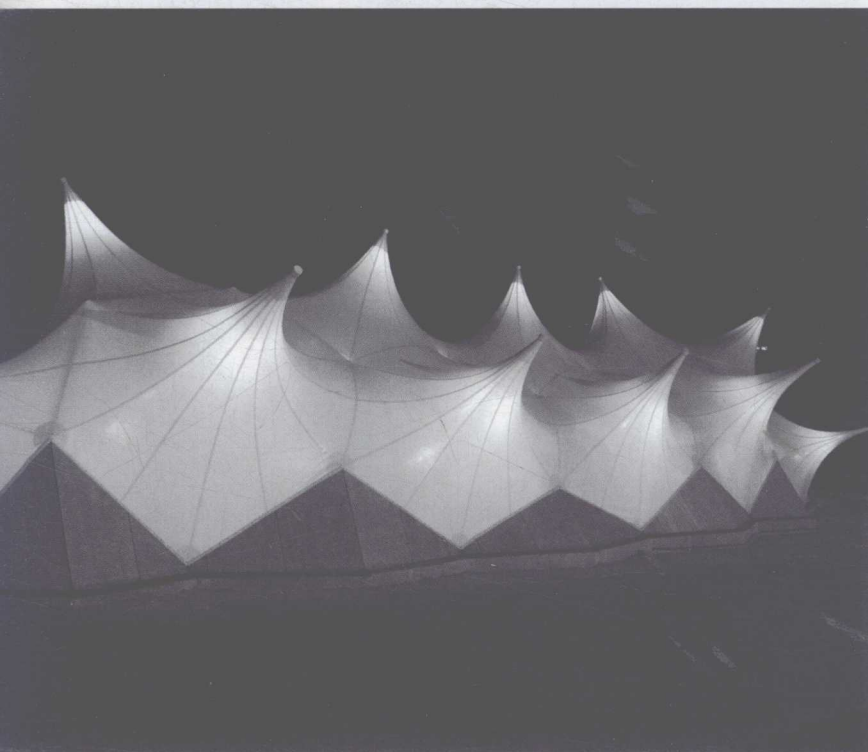
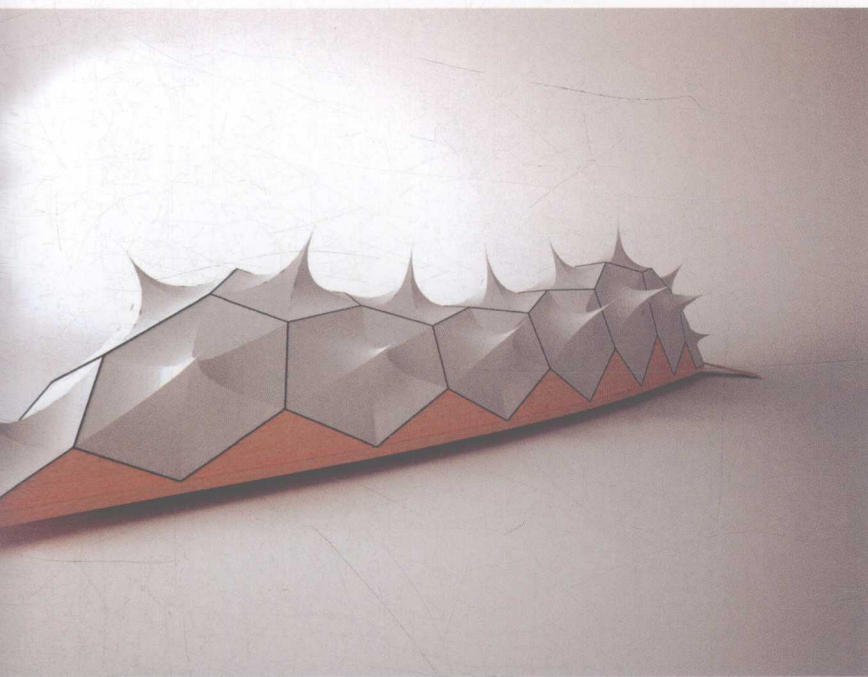




CUTTY SARK PAVILION

Architect: Alastair Townsend
(Youmeheshe Architects)
| Client: Cutty Sark Trust
| Location: Greenwich,
UK | Use: temporary
museum | Dimension: 22m
x 5m | Material: PVC fabric
membrane, timber, steel
structure | Completion: 2007





Cutty Sark is one of the world's most famous sailing vessels. After being decommissioned, the historic clipper ship has rested in a dry dock in the centre of historic maritime Greenwich where it served as public museum. This pavilion was built to provide an exciting and memorable temporary exhibition venue. It is dedicated to telling the story of the ship and the ambitious project underway to save her whilst she undergoes restoration. The design aim was to achieve an experience evocative of walking amongst the sails, masts, and rigging of a majestic sailing ship like Cutty Sark.

Tight integration of 3D CAD information between the design team and the contractors enabled the structure to be quickly designed, modified, and built. Digital manufacturing of elements such as the CNC'd structural timber components and the digitally tailored fabric cladding were vital to delivering such an ambitious structure in a matter of months.

The ground-breaking visitor center was built within a restricted budget and met a tight construction program of only 6 months from design to completion. The fast-track structure was the first building in the world to be designed using Bentley's Generative Components parametric computational design software. The technology enabled adjustments to the structure's design even in the latter stages of design. This proved vital in meeting the tight program as well as reaching a cost-optimized solution.

The first building of its kind in the world, the Cutty Sark Pavilion's experimental nature met the client's demand that the temporary visitor center be relevantly engaging and intriguing in order to capture the public's imagination.

BAKOKO Director Alastair Townsend designed and oversaw construction of the Cutty Sark Pavilion while working at Youmeheshe Architects in London.

