Putrajaya Convention Centre

*Putrajaya, Malaysia*

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**Architect:** Hijjas Kasturi Associates / Amir Hamzah

**Client:** Jabatan Perdana Menteri

**Built Area:** 135’000 m²

**Cost:** USS 175’768’800

The convention centre is a focal point of Malaysia’s new administrative capital. Its seven levels provide a plenary hall for 3’000, a banqueting hall for 3’500 and two large conference halls (capacity 2’000), as well as mini halls, meeting rooms, suites, galleries and supporting services - yet its footprint occupies only three acres of its 51-acre site, leaving the remainder for use as a public park. To achieve this, more than 60 per cent of the spaces are submerged below ground. The glazed walls of the above-ground structure are sloped and louvered to prevent direct solar gain; the membrane roof is made of Sanarfil.
PUTRAJAYA CONVENTION CENTRE

Putrajaya Convention Centre

Putrajaya, Malaysia

Architects
Hijjas Kasturi Associates / Amir Hamzah
Kuala Lumpur, Malaysia

Clients
Jabatan Perdana Menteri Putrajaya, Malaysia

Commission
2000

Design
2001 - 2001

Construction
2001 - 2003

Occupancy
2003

Site
194'262 m²

Ground Floor
8'500 m²

Total Floor
135’000 m²

Costs
US$ 175’768’800

Programme
The convention centre is a focal point of Malaysia’s new administrative capital. Its seven levels provide a plenary hall for 3’000, a banqueting hall for 3’500 and two large conference halls (capacity 2’000), as well as mini halls, meeting rooms, suites, galleries and supporting services - yet its footprint occupies only three acres of its 51-acre site, leaving the remainder for use as a public park. To achieve this, more than 60 per cent of the spaces are submerged below ground. The glazed walls of the above-ground structure are sloped and louvered to prevent direct solar gain; the membrane roof is made of Sanarfil.

THE CULTURAL SIGNIFICANCE AND IMPACT

The vision for the Putrajaya International Convention Centre was conceived by the Prime Minister of Malaysia to be a world class government-to-government conference facility. It was designed to host the 10th OIC summit for which the Prime Minister of Malaysia was then chairman. Its location within the new capital of Malaysia, Putrajaya, is symbolic of a growing and successful modern Islamic nation. The development thus is significant at both National and International levels. Tun Mahathir Mohammad marked his retirement on the completion of this building and at the opening of the summit.

The circular conceptual form was chosen for the integration into the site, perched on one of the highest points of Putrajaya. The circle as a shape is the strongest form of symbolic unity. The site resembles a mounted diamond likened to a Pending Perak, the traditional Malay warrior belt buckle. There is a Malay saying: “di mana di bahagian tengahnya terdapat bulatan yang menjadi pusat atau biji mata pending itu ada kalanya bertatahkan permata menghasilkan dimensi bentuk. .....where the center is raised, forming a dimensional pearl.

The major design constraint was to consolidate the complex spatial requirements for the building into a single simple structure. Approximately sixty percent of the building is submerged into the hill slope as a move to preserve the hill. Previously plantation land turfed landscaping covers the major conference Halls and main delegates circulation at these lower ground levels. A sunken courtyard brings light to the delegates galleries below ground, giving an impression of being surrounded by gardens.

Building Type
2007 Award Cycle 3117.MAL
The Spatial Organisation  The Convention Centre takes its shape from the circular ‘eye’ of the Pending Perak. The Main Halls - the 3,000 capacity Plenary Hall, the 3,500 capacity Banquet Hall and the Head of States Hall - are set within the ‘eye’, while radiating outwards are the series of meeting rooms, suites, galleries and lounges. The complexity structurally was in the clear span spaces of the Plenary Hall of 70 meters. Interiors taken inspiration with either islamic motif in mind or malay weaving and inspired forms. Local timber adorned the walls,Hand made carpets to the floors. Saudi granite was chosen specifically in support of islamic nation.

The location atop the commanding hill at the culmination of the 4.2km axis - running from the Perdana Putra Building which houses the Prime Minister’s Office, to Dataran Putra, along the main boulevard and major public squares and across Gemilang Bridge over the lake - provides an impressive setting for the Putrajaya Convention Centre.

Being situated in Putrajaya, the Government Administrative Centre, this landmark project stands as a symbolic venue for national and international events and places Malaysia prominently on the global map as a leading convention and exhibition centre.

The Plenary Hall The Head of States Hall

Principle elevation on Puncak Selatan Hill Viewed from main boulevard

Cross Section showing more than half the building submerged into the ground

Generous natural daylight illuminate public galleries through the raked and louvered building facade all around. The 15 degree raked angle of the glass facade contrasts and highlights the slopes of the site, the same as the roof contracts and highlights the crest of the hill.

The form of the roof is a unique combination of enclosed protection and soaring flight. From the front, its waves,or wings, are lifted at the sides creating breadth overhangs over raking glass facades. From the side elevations the effect is quite different: the roof is anchored at the front and back, creating a curved arched enclosure the entire building under a protective sweep. Ready to take flight, the broad roof arcs over the public circulation areas around the building and come together at the centre in angled planes as a fitting apex to the boulevard axis.

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Aga Khan Award for Architecture

ARCHITECT’S RECORD

2007 AWARD CYCLE

I. IDENTIFICATION

Project Name: Putrajaya International Convention Centre

Street Address: Presint 5, Putrajaya, 62000

City: Wilayah Persekutuan Putrajaya

Country: Malaysia

II. PERSONS RESPONSIBLE

A. Architect/Planner

Name: Hijas Kasturi Associates Sdn

Mailing Address: 23rd Floor Menara Promet, Jalan Sultan Ismail

City: Kuala Lumpur

Postal Code: 50250

Country: Malaysia

Telephone: 603-2141 8640

Fax: 603-2148 0154

Email: hjas@hijaskasturi.com

Principal Designer: Mt Amir Hamzah

B. Client

Name: Jabatan Perdana Menteri

Mailing Address: Perdana Putra Building, Federal Government Administrative Centre

City: Wilayah Persekutuan Putrajaya

Postal Code: 62502

Country: Malaysia

Telephone: 603-8888 8000

Fax: 603-8888 3444

Email: enquiry@pcc.gov.my

C. Project Affiliates/Consultants

Please list those involved in the project and indicate their roles and areas of responsibility (e.g., engineers, contractors, consultants, master craftsmen, other architects, clients, etc.). Please cite addresses and telephone numbers separately.

Name: Putrajaya Holdings Sdn Bhd

Role: Project Managers

Name: Hijas Kasturi Associates Sdn

Role: Architects & Interiors

Name: UVI Construction Sdn Bhd

Role: Main Contractor

Name: SKM Engineering Sdn Bhd; Perunding L&W Sdn Bhd

Role: Civil & Structure Engineers

Name: Perunding Koteck

Role: Mechanical & Electrical Engineer

Name: Pakatan International

Role: Quantity Surveyor

Name: Perunding Acomea Sdn Bhd

Role: Earthwork

Name: Shah FK Associates Sdn Bhd

Role: Landscape Architect

Name: Stephen Grubits & Associates Sdn Bhd

Role: Fire Safety Engineer

Name: Perunding HTA Sdn Bhd

Role: Acoustic Consultant
III. TIMELINE

A. Commission: 10 October 2000
D. Occupancy: September 2003

Remarks, if any:

IV. AREAS AND SURFACES

A. Total Site Area: 48,003 acres or 194,262 m²
B. Ground Floor Area: 8,500 m²
C. Total Combined Floor Area (including basement(s), ground floor(s) and all upper levels): 135,000 m²

Remarks, if any: 2 Basement car parks, 2 Lower Ground buried into hill, Ground plus 4 levels.

V. ECONOMICS

A. Total Initial Budget:
   - RM652,936,475
   - USD177,911,840
   - Exchange Rate: 3.67

B. Cost of Land:
   - RM
   - USD
   - Date

C. Analysis of Actual Costs

   1. Infrastructure
   2. Labour
   3. Materials
   4. Landscaping
   5. Professional Fees
   6. Other

   - Total Actual Costs (without land): RM646,069,256
   - USD175,768,800

D. Actual Cost (per sq m):
   - RM4,672 per m²
   - USD1,273
   - Exchange Rate: 3.67

Remarks, if any, on costs:
VI. PROJECT DESCRIPTION

Location
The convention center’s location is perhaps the best in the new administrative capital, sitting at the culmination of the main axis that runs from the Prime Minister’s office to Taman Putra, Selatan hill. The site is steeply ascending from 26 meters to 55 meters above sea level. The site is approximately 51 acres of which the building only takes up 3 acres, fact that the rest being set as a public park. The major constraint is to consolidate the complex spatial requirements for the building into a single structure that would be architecturally significant and an appropriate terminus for the formal boulevard.

Building submerged into hill slope
The building consists of 7 levels. Two lower ground floors, ground and four floors rising above. More than sixty percent of the building is submerged in the hill slopes, turned over to conceal the major halls and spaces of the lower ground floors. An external courtyard brings light down into these spaces giving natural daylight to the delegates’ concourse which should be able to accommodate up to 6000 people at any one time. Two Major Conference/Exhibition halls of 2000 capacity, 15 mini halls and various meeting rooms sit within these lower floors. This level is the main delegate’s registration supported by restaurants and amenities, and services. Two basement car parking is designed on the outer circumference set away from the lower ground floors as a security measure (accommodating 1200 cars).

Ground Level
What is visible of the building from the surrounding are the floors above ground. The Main Plenary Hall and Heads of State Hall occupy these four floors. Designing the spatial separations for this government-to-government facility where the nature of security takes a high but invisible priority governed the intricacies of the planning. Again gallery for the delegates afford priority with natural daylight and panoramic across the city of Petrajaya.

VII. MATERIALS, STRUCTURE, AND CONSTRUCTION

Construction
There were two major complexities to the form and structure of this convention center. The geometrically complex roof structure over the Plenary Hall and the 70,000 sq ft column-free banquet hall. The time span of 24 months to design and build for the OIC Summit was also a major constructional challenge. Innovative designs were required to speed up the construction sequence.

The roof
The biggest challenge was resolving the anti-elastic external profile to allow for the significant deflections under self-weight that varied around the structure, resulting in an uneven profile. The material chosen for the seamless roof was a membrane type material (Sarafi) that would be able to stretch over the 3-dimensional roof form. A derestory between roofs was created to bring in some light from above.

Structure
The primary focus was then on the main truss that was to span 90 m across the Plenary Hall. 80 radial sections each containing a complex truss system made of steel was brought up to carry the load. Combination of composite columns, steel truss and concrete floors and raft foundation was employed for the project.

Building Skin
Glazed walls around the building with double glazing system for acoustic insulation wrapped around the upper galleries. Sloped at 15 degrees and louvered to prevent direct solar gains. Solar modeling was performed to analyse the levels of direct solar gain into the building for energy optimization.

Interiors
Internally the building used local materials and locally manufactured finishes which custom designed for the convention center. An exception was the stone flooring which Saudi granite was used for the particular hardness of the material.
VII. PROJECT SIGNIFICANCE AND IMPACT

Vision

The vision for the Putrajaya Convention Centre was conceived by the Prime Minister of Malaysia to be a world-class government-to-government conference facility. It was conceived to host the 10th Conference of the OIC Summit for which the Prime Minister, Tun Mahathir Mohamad was then chairman. It is significant at an international level for this purpose and at a national level it marks the culmination point for Putrajaya City, the newly capital city of Malaysia. Putrajaya City, along with the Petronas Twin Towers and Kuala Lumpur International Airport are all nationally significant projects in putting Malaysia forward as a developed nation and as a symbol of a growing and successful modern Islamic Nation.

Global Level

It was at this Convention Centre that Tun Mahathir gave his inspiring speech to the 57 member Islamic community representing more than a billion Muslims worldwide and the first meeting of the OIC since the 11 September attacks on America, and the US-led war on terrorism was a dominating agenda. The OIC Summit themed “knowledge and Morality for the Progress of Ummah” and attended by Islamic leaders held at a time when Islamic would faces challenges of terrorism, extremism, globalization as well as defamation of Islam’s and Muslims.

The building was a platform and continues to be the first government-to-government purpose built facility. Studies from the UN model in Geneva, Taif, Korea and European cities were required prior to establishing and forming the brief for this building.

National Level

When the project was under construction, Tun Mahathir had announced that he would retire and handover as head of government to Dato’ Seri Abdullah Ahmad Badawi as prime minister once the building was completed for the OIC Summit.

The vision of Putrajaya as a modern Islamic city was paramount in the vision 2020 of the nation. The PICC or Putrajaya International Convention Center was amongst the projects completed in the city to achieve this vision. The Putra Jaya International Convention Centre was conceived as the ultimate jewel within the context of the entire new city development.

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Name (please print)  
SERINA HIIJAS

Signature

Date 15 April 2006
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<td>2 of 10 - Night View: Front Elevation Facing The Boulevard</td>
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<td>4 of 10 - The Chandelier at Head of State Hall</td>
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<td>5 of 10 - A view of one of the two Exhibition Halls</td>
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<td>6 of 10 - Banquet Hall with 2500 capacity and 75m diameters column free area</td>
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<td>7 of 10 - The Plenary Hall with 3000 capacity</td>
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<td>8 of 10 - The Chandelier at Plenary Hall</td>
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<td>9 of 10 - The Gallery: The main circulation of the building</td>
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<td>10 of 10 - Internal Courtyard on East and West Wings provide natural lights to floors below Ground</td>
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