Overview

**Name:** Kansai International Airport

**Place:** Osaka Prefecture, Japan

**Area:** 10.5 km²

**Total Cost:** $20 billion

**Opened:** September 4, 1994

**Terminal:** 1 (four-story)

**Runways:** 2
Magnitude and Statistics

Statistics of 2007:

Aircraft movement: 128,943 flights
Number of passengers: 16,694,921 passengers
Freight volume: 846,522 tons

Weekly flight data:

Weekly international flights: 814
Weekly domestic flights: 493
Construction

Man-made island:

- 4 km long and 2.5 km wide
- 21 million m$^3$ of landfill
- 10,000 workers
- 10 million work hours
- Over 3 years
- 80 ships

Sky Gate Bridge:

- 3 km (~ 1.9 miles)
- $1 billion.
Technical & Engineering Issues

Sinking much more than predicted:

- Adjustable columns were designed to support the terminal building.

Severe earthquakes and typhoons:

- Using Sliding joints
  - In 1995, the airport survived an earthquake 7.2 on the Richter scale. Even the glass in the windows stayed intact.
  - In 1998, it survived a 200 km/h (~120 miles/h) typhoon.
Cost breakdown

✓ Total Cost: $20 billion

– Includes the land reclamation, 2 runways, terminal and facilities.

– Additional costs came from the sinkage of the island.
Kansai International Airport Co., Ltd. (KIAC)

- Formed jointly with investment capital from the national government, local governments and the private sector.
- Founded in Oct. 1984
- 6 subsidiaries specializing in individual fields
- Operates Kansai International Airport Land Development Co., Ltd.
Subsidiaries to KIAC

✔ KIA Heating & Cooling Supply Co., Ltd.
✔ KIA Information & Telecommunications Network Co., Ltd.
✔ KIA Fueling Service Co., Ltd.
✔ KIA Facilities Engineering Co., Ltd.
✔ KIA Security Co., Ltd.
✔ Kansai Airport Agency Co., Ltd.
Early Money Losses Everywhere

✔ Airport debt:
  – Losing $560 million in interest every year

✔ High landing fees chase away airlines:
  – Approx. $7500 for Boeing 747

✔ On-site concession operation costs:
  – Estimated $10 cost for a cup of coffee
Airlines are the Main Money Makers

- Over 50 passenger airlines
- Over 10 cargo airlines
- Approximately 1300 total weekly flights
Other Money Makers

✓ Railways
✓ Airport Shuttle/Bus Services
✓ Parking
✓ Ferry Service
✓ Hotel Nikko Kansai Airport
### Revenue/Expense Breakdown for 2008

<table>
<thead>
<tr>
<th>Consolidated Statements of Operation</th>
<th>2008 (Thousands of US Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Revenue</td>
<td>1,061,142</td>
</tr>
<tr>
<td>Operating Expenses</td>
<td>810,906</td>
</tr>
<tr>
<td>Operating Income</td>
<td>250,237</td>
</tr>
<tr>
<td>Other Income (Expenses)</td>
<td>(141,166)</td>
</tr>
<tr>
<td>Income before Income Tax and Minority Interest</td>
<td>109,071</td>
</tr>
<tr>
<td>Net Income</td>
<td>108,673</td>
</tr>
</tbody>
</table>
The second most expensive airport in the world

Local fishermen were the only group to protest, but they were silenced by hefty compensation packages.
Satellite Image of Kansai International Airport
Policy Challenges

✓ Noise Pollution
  – Aircraft noise

✓ Traffic Amount Increase
  – Total amount of traffic and amount of traffic produced by vehicles involved in construction

✓ Air Quality and Climate
  – NO\textsubscript{x}, (NO, NO\textsubscript{2}), SO\textsubscript{2}, CO, SPM, O\textsubscript{x}, HC, wind direction and wind speed

✓ Water / Sediment Quality
  – Turbidity, pH level, etc.

✓ Marine life and land dwelling creatures
  – Plankton, roe and undeveloped fish, bottom-dwellers, fish for fishing industry
  – Flight and nesting of birds
  – Migration of hawks, etc
Conclusion

☑ Overview
☑ Magnitude and Statistics
☑ Construction
☑ Technical and Engineering Issues
☑ Social Problems
☑ Policy Challenges
Awards

- Ranked 4th overall in the Airport of the Year 2006 awards named by Skytrax
- Still made top 10 list for Airport of the year by Skytrax for 2007 and 2008
- On April 19, 2001, the airport was one of ten structures given the "Civil Engineering Monument of the Millennium" award by the American Society of Civil Engineers
THANK YOU!!