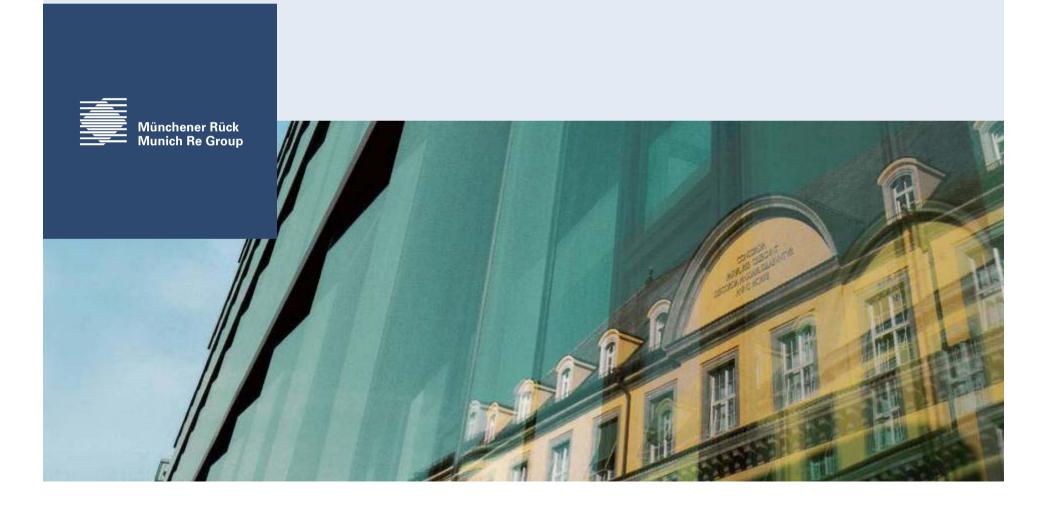
# **Decennial Insurance Major Iosses**

Hervé Landrin

IMIA Conference - Tokyo 03.Oct.2007





#### Münchener Rück Munich Re Group

### **List of losses**

| Completion<br>Year | Occurrence<br>Year | Building                      | Loss<br>Million EUR |
|--------------------|--------------------|-------------------------------|---------------------|
| 1977               | 1979               | Centre Pompidou (Paris)       | 2,5                 |
| 1989               | 1993               | Grande Arche (Paris)          | 2                   |
| 1991               | 1994               | Office building (Sheffield)   | 8                   |
| 1992               | 2000               | Mosque Hassan II (Casablanca) | 46                  |
| 1996               | 1999               | Shopping Mall (Marseille)     | 76                  |
| 2003               | 2004               | CDG Airport (Paris)           | 112                 |

# Decennial Insurance: Major Iosses Centre Pompidou (Paris)



### Corrosion of lattice trusses EUR 2,5m



# Decennial Insurance: Major Iosses Centre Pompidou (Paris)



Corrosion of lattice trusses EUR 2,5m

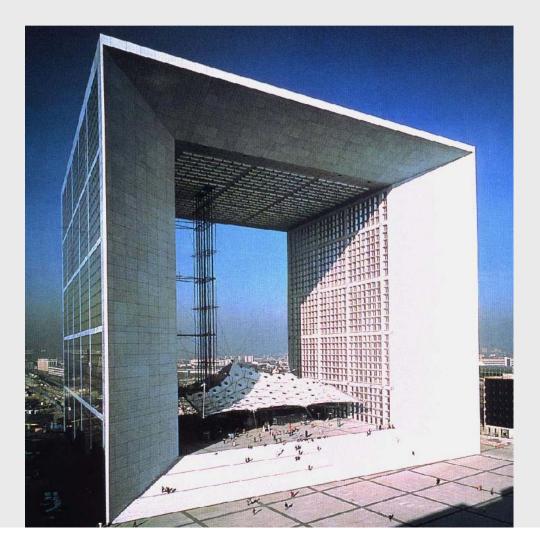


#### Münchener Rück Munich Re Group

# Decennial Insurance: Major Iosses Grande Arche (Paris)

Corrosion of marble slabs (outside south facade)

EUR 2m





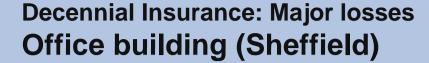


### Severe deflection of floor slabs causing:

- Cracking of both the internal and external walls
- Distortion of the glazed curtain wall

EUR 8m







Severe deflection of floor slabs causing:

• Cracking of both the internal and external walls

• Distortion of the glazed curtain wall



## Decennial Insurance: Major losses Mosque Hassan II (Casablanca)





1/3 of Mosque founded on concrete piers exposed to ocean sea water

Observation of severe damage at all concrete structures touched by ocean water:

- Cracks in Girders, Piers and Ceilings
- Intense corrosion of reinforcement

EUR 46m



# Decennial Insurance: Major Iosses Mosque Hassan II (Casablanca)



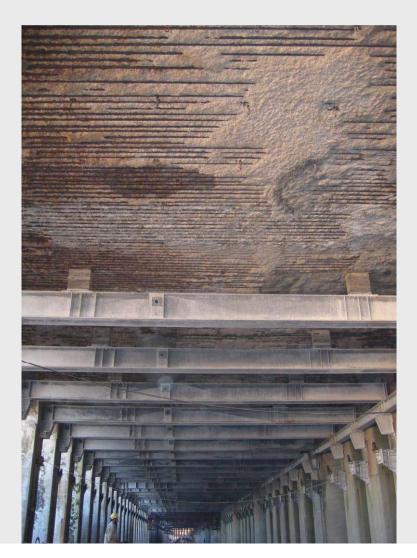
# Decennial Insurance: Major Iosses Mosque Hassan II (Casablanca)



### EUR 46m





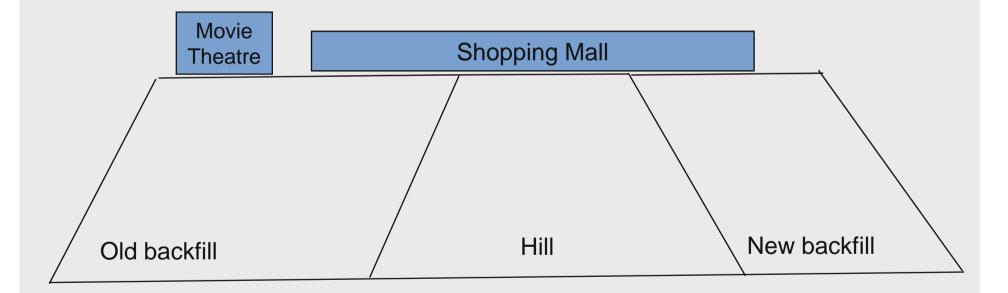




## Decennial Insurance: Major losses Movie Theatre and Shopping Mall (Marseille)

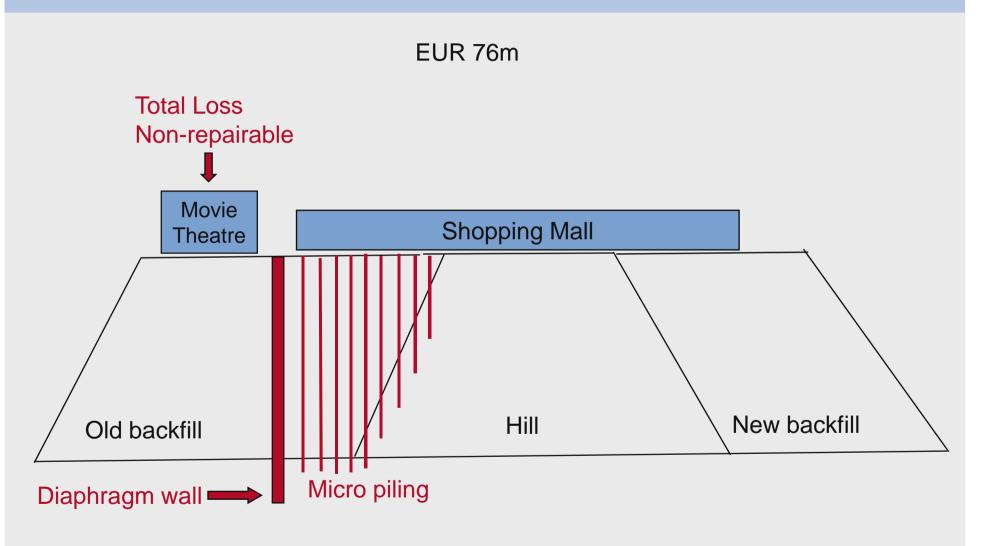
Severe settlements of parts founded on old backfill

EUR 76m





## Decennial Insurance: Major losses Movie Theatre and Shopping Mall (Marseille)



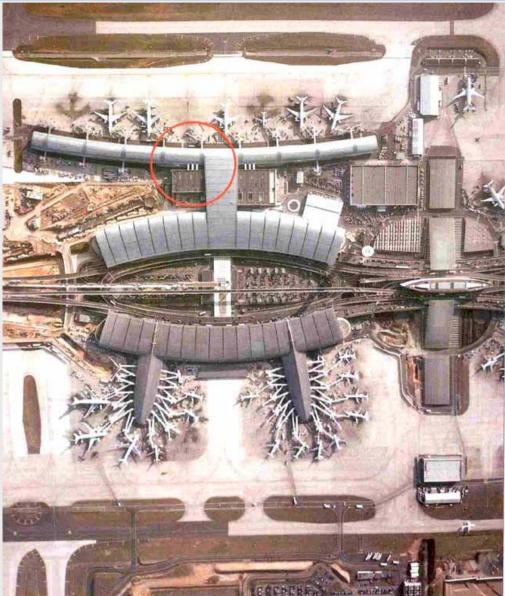
## Decennial Insurance: Major Iosses CDG Airport (Paris)



4 people killed in the sudden collapse of a 24 meter section of a 650 meter long concourse

**EUR 112m** 





### **Decennial Insurance: Major Iosses**

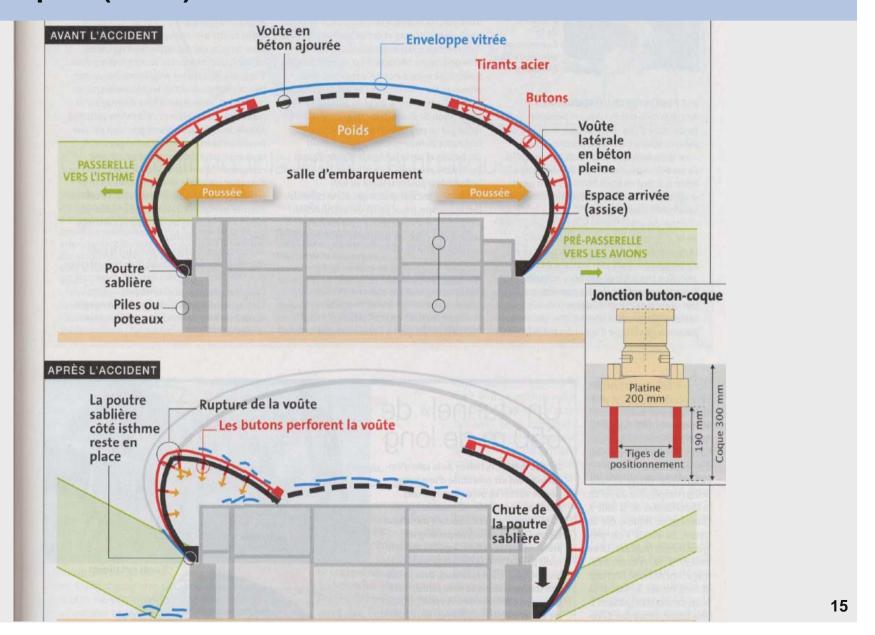
### **CDG Airport (Paris)**





## Decennial Insurance: Major losses CDG Airport (Paris)





### **Decennial Insurance: Major losses**

### Münchener Rück Munich Re Group

#### **Lessons learned**

- Prestigious buildings are not free of loss
- TIS should be involved since the design stage
- Too low the fees of TIS, the more losses you can expect
- Very modern architecture can cause unexpected losses
- Are prototypes insurable?

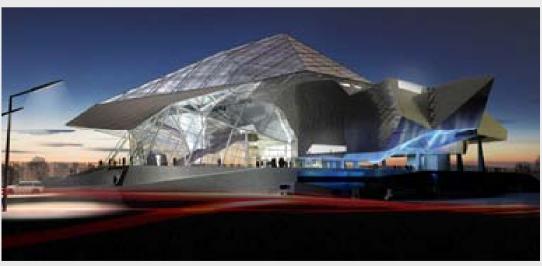
### **Decennial Insurance: Major losses**

### **Lessons learned**





Is this building likely to be insured?



### Thank you for your attention!

Hervé Landrin

