FLEETGUARD FACTORY
: Richard Rogers Partnership

Ga Ram Cha
Min Hee Lee
Seon wook Park
The Architect

- Richard Rogers
  - Team 4
  - Richard + Su Rogers
  - Piano + Rogers
  - Richard Rogers Partnership
Introduction

<table>
<thead>
<tr>
<th>Location</th>
<th>Quimper, Brittany, France</th>
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<tbody>
<tr>
<td>Site Areas</td>
<td>8,750 + 30,000 Sqm</td>
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<tr>
<td>Type</td>
<td>Industrial</td>
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<tr>
<td>Building Scope</td>
<td>1 Floor (Mezzanine Level)</td>
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<tr>
<td>The Architect</td>
<td>Richard Rogers Partnership</td>
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<tr>
<td>Structure</td>
<td>Steel</td>
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<tr>
<td>Dates</td>
<td>1979 - 1981</td>
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</tbody>
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• Awards
  - Awards Constructa-Preis for Overall Excellence in the Field of Architecture 1986
  - Concours de Plus Beaux Ouvrages de Construction Metallique 1982 - Premier Award for Exceptional Steel Structure, France 1982
Background

• Site
  - Newly designed industrial zone
  - Near town of Quimper in Brittany
Background

• Design Concept

- Minimising intrusion on the landscape
- Dynamic suspension structure
- External structure frees
- Interior roof zone for flexible services distribution
Architecture

- Plan / Section
Assembly Process

- Column and Beam system
- Trusses system for lateral stability
- Cable system to increase beam span
• Detail drawings of the mast
• Suspension rod
• Detail of mast connections
Details

Detail of Pinned connection

Baseplate on footing & power floated slab

Wall section
Details

Tubular steel hanger and suspension rods

Column head detail showing forked-end mild-steel suspension rods

Detail of mast connections
• **Vertical Loading**

1. Point load applied to roof
2. Central beam bends in vertical plan
3. Surrounding beam bends in horizontal plan
4. Steel columns transfer load to footings
5. Tension cables serve as secondary load carrier
• Lateral wind loading

1. Lateral wind load hits surrounding frame
2. Load resists by central beam in compression
3. Surrounding beams in bending
4. Lateral forces transfer to footing through triangulation
5. Secondary structural elements
Multiframe 4D

- 3D frame copy
- Axial force
- Bending moment
- Shear force
- Deflection

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Architectural Structures III
PROF. Anne Nichols
- View of the rooftop masts
- Side view of the building
- Model of one structural bay
- Elevation detail drawing
Conclusion

- The building is supported by column, beam and cable structure.
- Vertical load: Beam and column + cable structure.
- Lateral load: Truss + beam and column
- It shows the architect’s style and clear cable structure.
- Minimalization

• Reference

- [http://www.richardrogers.co.uk/render.aspx?siteID=1&navIDs=1,4,23,470](http://www.richardrogers.co.uk/render.aspx?siteID=1&navIDs=1,4,23,470)
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