CENTRO DE ESTUDIOS Y EXPERIMENTACIÓN DE OBRAS PÚBLICAS

Created in 1957
Autonomous Institution of the Ministry of Public Works (Ministerio de Fomento)
Functional links with the Ministry of Environment
Multi-disciplinary:
- civil engineering, materials science, geology, oceanography
Objectives:
- applied research and development
- high level technical assistance
- standardization
- technical training and documentation
MAIN DATA REGARDING CEDEX

- TOTAL STAFF: 750
- SCIENTISTS AND ENGINEERS: 35%
- FACILITIES: 80,000 m²
- DIVISION OF THE ACTIVITIES:
  - RESEARCH + DEVELOPMENT: 30%
  - TECHNICAL ASSISTANCE: 70%

ORGANIZATION

- GENERAL DIRECTORATE
  - Deputy Directorate of Technical and Scientific Programming
  - Central Technical Cabinet

- Harbour and Coast Research Center, CEPYC
- Hydrographic Research Center, CEH
- Road Research Center, CEC
- Applied Techniques Research Center, CETA
- Central Laboratory for Materials and Structures, LCEM
- Geotechnics Laboratory, LG
- Center for Historic Studies on Public Works and Urban Development, CEHOPU
Centro de Estudios de Puertos y Costas
(Harbour and Coast Research Center)

- Marine experimentation
- Coastal dynamics
- Ocean engineering
- Harbour studies
- Environmental quality

Centro de Estudios Hidrográficos
(Hydrographic Research Center)

- Hydrology and Hydrometry
- Studies and planning
- Water quality
- Hydraulics laboratory
- Irrigation
Centro de Estudios de Carreteras
(Road Research Center)

- Created in 1987
- Total staff: 85
- Scientists and engineers: 25

Road Research Center

- Laboratory of Road Infrastructure
- Pavement Monitoring and Management
- Traffic and Road Safety
- Computer Engineering Department
- General Services

- Road Materials
- Design and Analysis of Pavements
- Structural Performance
- Full Scale Tests
- Surface Characteristics
- Pavement Management Systems
- Pavement Rehabilitation
- Road Layout
- Basic Studies of Traffic
- Road Safety
MAIN EQUIPMENT OF THE ROAD RESEARCH CENTER

- Full Scale Test Track, completely computerized
- Laboratory equipment for road material testing (aggregate, binders, bituminous mixes, concretes)
- Mobile equipment for pavement monitoring: (SCRIM, Falling-Weight Deflectometer, etc.)
- Equipment for weigh-in-motion of vehicles.
CEDEX TEST TRACK

Pavement Testing in the straight zones:
- 3 sections/each
- Aprox. 20 m/section
- Total=6 sections/test

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- 3 sections/each
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Cross Section of the Test Track

- Control Center
- Cross Section
- Load Simulator
- 8 m (26.2 ft)
- Concrete Box
- Guide Beam
- Accessible Gallery
- Cable Passage
- 2.6 m (8.5 ft)
- Drainage Layer with Geotextile
- Concreté Box
CEDEX TEST TRACK

Madrid Location
CONFERENCE VENUE: POSSIBILITIES

CETA (CEDEX)

Centro de Estudios de Técnicas Aplicadas
(Appled Techniques Research Center)
CONFERENCE VENUE: POSSIBILITIES

Example: WAVES 2005

The Fifth International Symposium on Ocean Wave Measurement and Analysis
Madrid, Spain 3rd - 7th July 2005
Weather Information for Madrid

<table>
<thead>
<tr>
<th>Table of Average Monthly Highs and Lows</th>
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<tbody>
<tr>
<td>Jan</td>
</tr>
<tr>
<td><strong>HIGH</strong></td>
</tr>
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<td></td>
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<tr>
<td><strong>LOW</strong></td>
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| Jul  | Aug | Sep | Oct | Nov | Dec |
|----------------------|
| **HIGH** | 32°C | 30°C | 25°C | 20°C | 12°C | 9°C |
|           | 90°F | 86°F | 77°F | 75°F | 55°F | 48°F |
| **LOW**   | 15°C | 17°C | 14°C | 10°C | 5°C | 2°C |
|           | 64°F | 63°F | 57°F | 50°F | 41°F | 36°F |
Official Language

**ENGLISH** is the official language of the symposium.

All abstracts and papers submitted must be written in **English**.

Parallel translations (English-Spanish) will be available during the opening ceremony as well as the inauguration of the Exhibition & Exhibition of Engineering and Sea.
Exhibition "Tribarren: Engineering and the Sea"

During WAVES 2005, an exhibition on the accomplishments of this outstanding engineer, pioneer on wave research and founder of the Centro de Estudios de Estructuras y Costas will be opened at the Palacio de Congresos.

The Spanish version of this EXHIBITION was made and presented in the centenary of Tribarren’s birth in November of 1990. WAVES 2005 will provide an excellent opportunity to view a revised version with panels, pictures and descriptions written in both English and Spanish.

A catalogue of the Exhibition will be offered to the participants.
Tours and Trips

OPTIONAL SOCIAL PROGRAM

The Technical Secretariat of the Symposium has prepared a series of optional visits for accompanying persons and participants, scheduled during the Symposium, that offer a good overview of the coastal and marine environment of the Basque Country. More detailed information on these events will be published.

OPTIONAL POST-Symposium TECHNICAL TOUR

The post-Symposium technical tour is not included in the registration fee and must be paid separately.

After the post-Symposium sessions and included in the Symposium Schedule, a technical tour along the Basque Country coast is proposed to the attendees. The tour is designed to follow Zibarraren field work, harbor and beach projects. Punta la Barra, San Sebastian and Bilbao are included in this tour as well as other very interesting Basque sites.

Two water and sea-surrounded modern architectural masterpieces may be visited: The Guggenheim Museum of Bilbao, designed by Frank Gehry, and the Kursaal Hall in San Sebastian, designed by Norman Foster.
Structural studies
Structures monitoring
Structures experimentation
Materials science
Mineralogy and petrology

Laboratorio Central de Estructuras y Materiales
(Central Laboratory for Materials and Structures)

Laboratorio de Geotecnia
(Geotechnics Laboratory)

Laboratory & field testing
Instrumentation
Geophysical techniques
Soil and rock dynamics
Soil improvements
Centro de Estudios Históricos de Obras Públicas y Urbanismo

Center for Historic Studies on Public Works and Urban Development

- Exhibitions
- Restoring
- Publications & courses
- Archive & documentation
- Historic research

CLIENTS

- M. OF PUBLIC WORKS
  - ROAD DIRECTORATE
  - SPANISH PORT AUTHORITY
  - TECHNICAL GENERAL SECRETARY
- M. OF ENVIRONMENT
  - ENVIRONMENTAL QUALITY AND ASSESSMENT DIRECTORATE
- REGIONAL GOVERNMENTS
- EUROPEAN UNION
- COMPANIES
  - MATERIAL PRODUCERS
  - CONSTRUCTION COMPANIES
- NON FUNDED ACTIVITIES
  - RTD PROJECTS, COST ACTIONS
  - RTD PROJECTS WITHOUT EXTERNAL FUNDING
  - TECHNICAL AND STANDARDISATION COMMITTEES