

**Introductory Remarks from Prof. Schlosser  
Director, FOREVER  
French National Research Project**

**FRENCH NATIONAL RESEARCH PROJECT**

**OBJECTIVES :** • BEHAVIOUR AND DESIGN OF  
MICROPILES  
GROUPS OF MICROPILES  
NETWORKS OF MICROPILES

• PUBLICATION OF RECOMMENDATIONS

**DURATION :** 1993 - 1997

**BOARD :** PRESIDENT : H. Cyna  
DIRECTOR : F. Schlosser  
TECHNICAL DIRECTOR: R. Frank  
COORDINATOR: P. Unterreiner

**MEMBERS :** 25 ( contractors , administrations , consulting  
firms , etc... )

**FHWA**

**BUDGET :** 30 MF ( ≈ 5 M US DOLLARS )

GOUVERNMENTAL SUPPORT : 15% OF BUDGET

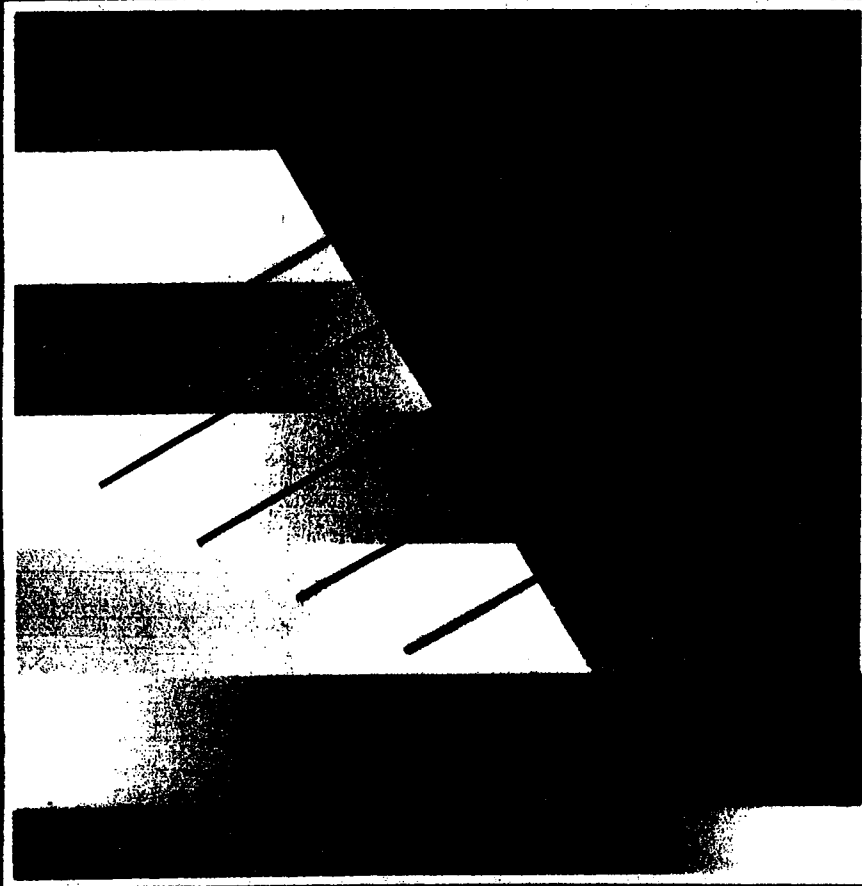
## **FRENCH NATIONAL RESEARCH PROJECTS IN GEOTECHNICS**

- |   |                     |                    |  |
|---|---------------------|--------------------|--|
| ① | <b>TUNNELS</b>      | <b>(1985 _ 90)</b> | <b>Tunneling</b>   |
| ② | <b>CLOUTERRE</b>    | <b>(1986 _ 91)</b> | <b>Soil nailing</b>  |
| ③ | <b>FOREVER</b>      | <b>(1994 _ 99)</b> | <b>Micropiles</b>  |
| ④ | <b>CLOUTERRE II</b> | <b>(1995 _ 99)</b> | <b>Soil nailing</b>  |
| ⑤ | <b>MICROTUNNELS</b> | <b>(1995 _ 99)</b> | <b>Microtunneling</b>  |
| ⑥ | <b>EUPALINOS</b>    | <b>(1995 _ 99)</b> | <b>Tunneling</b>   |
| ⑦ | <b>CRITERRE</b>     | <b>(1997 _ 01)</b> | <b>Anomaly detection and<br/>the in-situ control of<br/>soil improvement</b> |

English Trans.  
July 1993

PROJECT CLOUTERRE

# RECOMMENDATIONS CLOUTERRE 1991



Soil Nailing Recommendations - 1991  
For Designing, Calculating, Constructing  
and Inspecting Earth Support  
Systems Using Soil Nailing



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

DOT  
FHWA

LIST OF MEMBERS

① GENERAL CONTRACTORS

BOUYGUES  
CAMPENON BERNARD  
COFIROUTE  
FOREZIEENNE

② FOUNDATION CONTRACTORS

HYDROTECHNIQUE  
ISCHEBECK  
MENARD TRAITEMENT  
BACHY  
SOLETANCHE  
SOGETRAM  
SOIL NAILING

③ ADMINISTRATIONS AND OWNERS

SETRA (French Public Highways)  
FHWA  
SNCF (French Railways)  
RATP (Paris Transport)  
SOCASO (French Privatised Highways)

④ DESIGN AND CONSULTING

SCETAURROUTE  
TERRASOL

⑤ RESEARCH INSTITUTES

BRGM  
CEBTP  
LCPC

⑥ SOIL MECHANICS RESEARCH CENTERS

CERCSO  
CERMES  
E.C. LILLE  
LAB 3S / GRENOBLE  
UNIVERSITY OF CANTERBURY

**Note: Introductory remarks by Prof. Ilan Juran (on behalf of TC-17 of ISSMFE) and Mr. Geordie Compton (DFI) were also made, but not submitted for this publication.**