

# RESEARCH COOPERATION OF CROATIA AND JRC IN FIELD OF SAFETY AND SECURITY IN CONSTRUCTION SECTOR

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Civil Engineering, University of Zagreb



# Current Cooperation

- Working group on future Eurocode for FRP Composite in Civil Engineering

JRC Scientific and Technical Reports



## PURPOSE AND JUSTIFICATION FOR NEW DESIGN STANDARDS REGARDING THE USE OF FIBRE-REINFORCED POLYMER COMPOSITES IN CIVIL ENGINEERING

Support to the implementation, harmonization and further development of the Eurocodes

E. Gutiérrez, S. Dimova, A. Pinto



EUR 22864 EN - 2007

# Current Cooperation

- Working group on future Eurocode for Glass Structures

JRC Scientific and Technical Reports



## **Purpose and justification for new design standards regarding the use of glass products in civil engineering works**

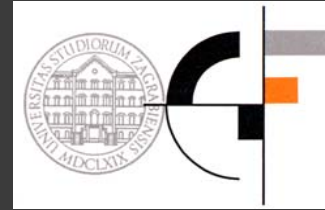
Support to the implementation, harmonization and further development of the Eurocodes

R. Zarnic, G. Tsionis, E. Gutierrez, A. Pinto, M. Geradin, S. Dimova



EUR 22856 EN - 2007

University of Zagreb  
Civil Engineering Faculty  
Structural Department



National Scientific project: Lead by Prof. Vlatka Rajčić,  
str.eng.

**Collaboration with:**

- UNIVERSITY OF LJUBLJANA
- FACULTY OF ARCHITECTURE IN ZAGREB
- MPA STUTTGART (OTTO- GRAFF- INSTITUTE)
- ALU-KON (LEADING CROATIAN PRODUCER OF CONSTR. GLASS)

**Composite systems wood-  
constructive glass**

# Potentials for future cooperation

- FP7 projects
- Eureka projects

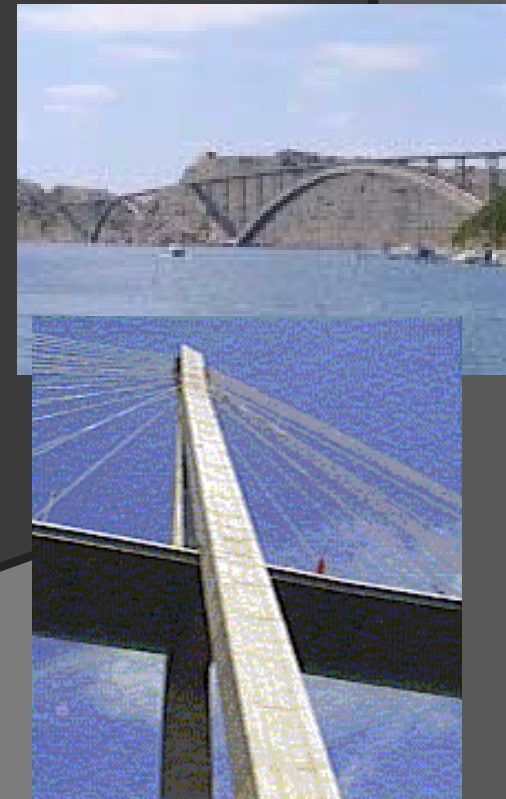
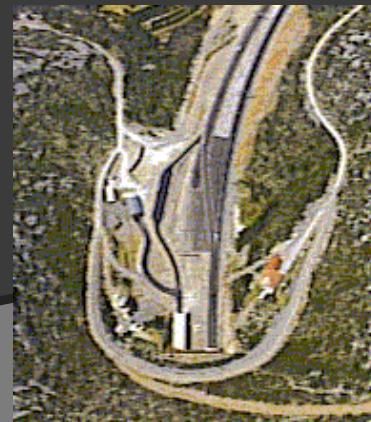
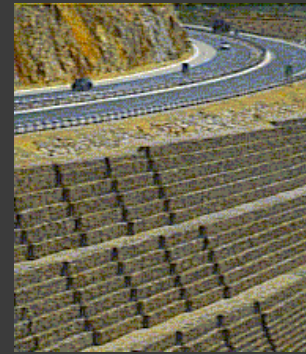
The screenshot shows the CORDIS FP7 Homepage in Mozilla Firefox. The browser title is "CORDIS: FP7 Homepage - Mozilla Firefox". The address bar shows "http://cordis.europa.eu/fp7/home\_en.html". The page content includes the CORDIS logo, the title "Seventh Research Framework Programme (FP7)", and a navigation menu with links like "About", "What's New?", and "Sitemap". The main content area features a grid of colored boxes for "Cooperation", "Ideas", "People", and "Capacities". A sidebar on the left lists navigation options such as "FP7 Home", "FP7 newsroom", and "Participate in FP7". A "Latest News" section highlights a story about heart patients and telemonitoring solutions. The bottom of the page shows the Windows taskbar with the Start button and several open applications.

# Potentials for future cooperation

- Exchange of visits and lectures of researchers from Croatia to JRC ELSA and v.v.
- Visits of students from Croatian Universities to JRC ELSA Laboratory in Ispra

# Potentials for future cooperation

- R&D Projects for Croatian Construction Companies with potential support from Croatian government and EC funds

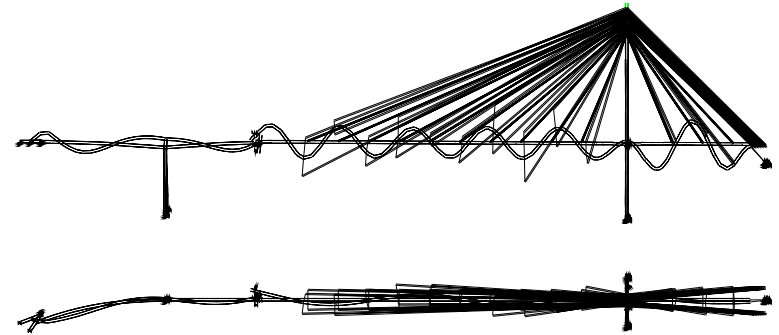


# Potentials for fut

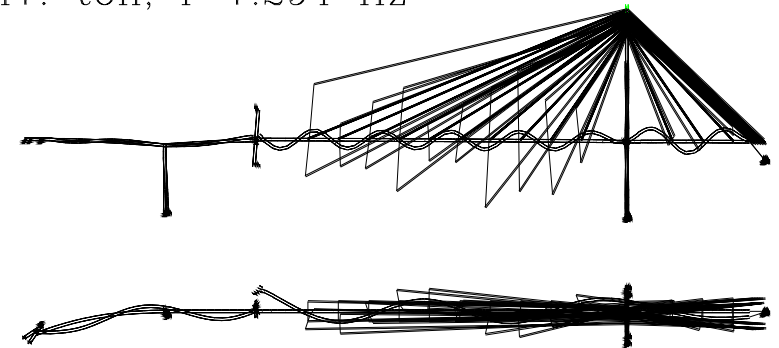
- R&D Projects for Cr
- Companies with pot
- Croatian governmen



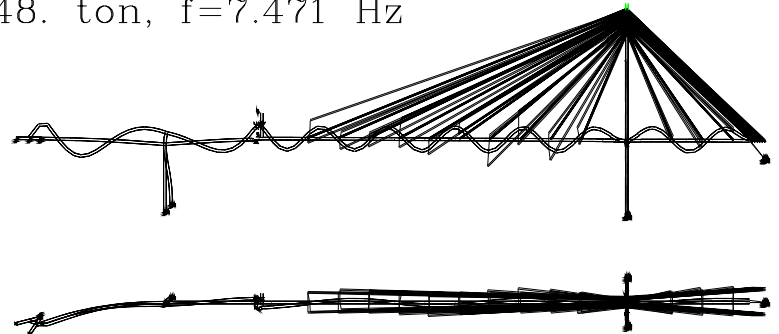
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47. ton,  $f=7.294$  Hz



48. ton,  $f=7.471$  Hz



# Laboratory Cooperation

- Cooperation between ELSA Lab and laboratories in Croatia
  - Croatian Civil Engineering Institute IGH



# Laboratory Cooperation-IGH

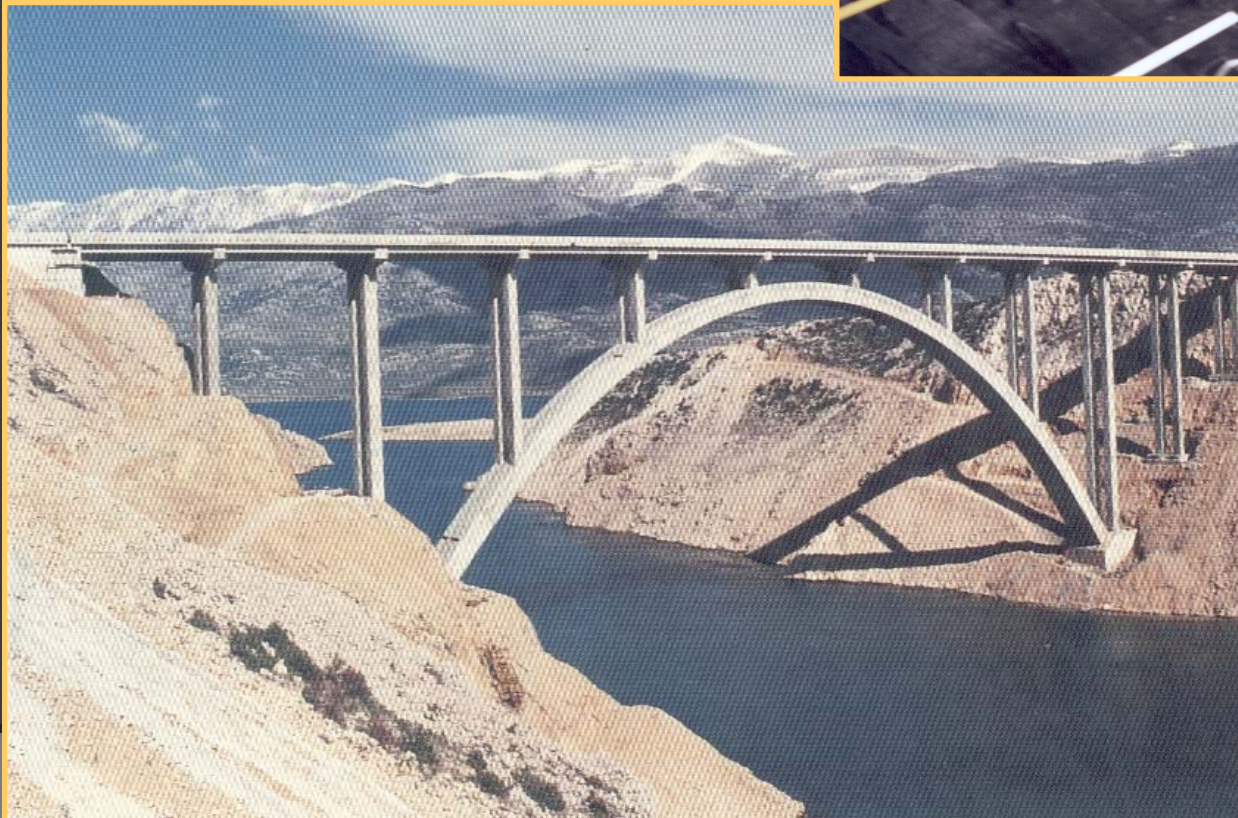


The Civil Engineering Institute of Croatia covers, through its regional units and field laboratories, the entire territory of the Republic of Croatia. It has over 700 full-time employees, out of which more than fifty percent are professionals with PhD, master's and bachelor's degrees in civil engineering and other related disciplines. The Institute performs its research and professional activities through nine departments and three regional units

## ORGANIZATION

- Concrete and Masonry Structures Department
- Geotechnical Department, ° Water Engineering Department
- Environmental Engineering Department
- Steel Structures Department
- Construction Management Department
- Transportation Department
- Design & Studies Department
- Building Research Department
- General Service Office
- Regional Centre in Split , Osijek & Rijeka

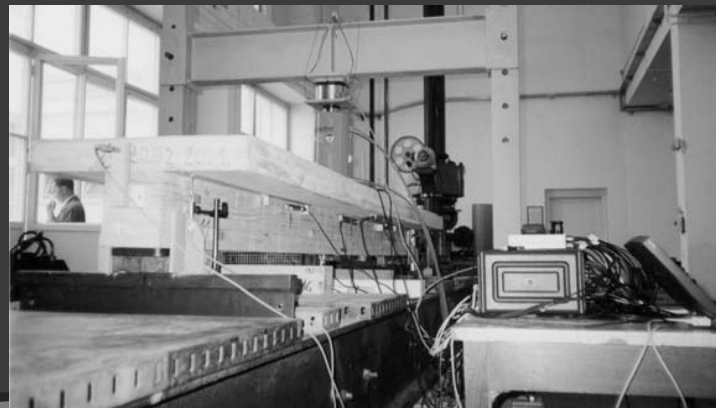
**A large number of expert studies with research elements such as physical modeling of dam breach have been undertaken in the Department laboratory, such as an investigation of the device for the diminishing of the wind effects on the bridge traffic capacity in the wind tunnel.**



# Laboratory Cooperation- Faculty of Civil Engineering

Laboratories belong to Departments

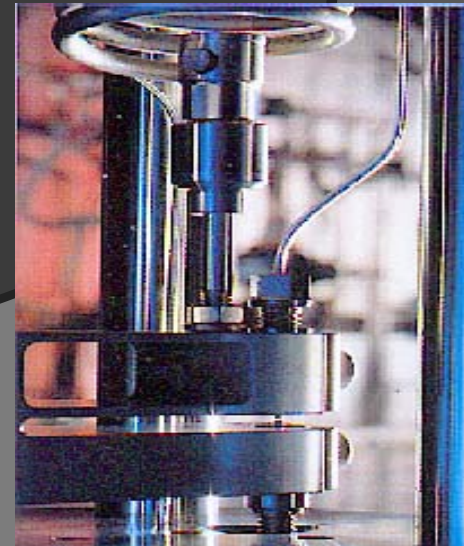
- ⦿ Engineering Mechanics
- ⦿ Geotechnical Engineering
- ⦿ Hydrotechnical Engineering
- ⦿ Transportation
- ⦿ Materials



# Laboratory Cooperation



- Small and medium size tests performed in Croatia, larger in ELSA
  - Development of earthquake resistant systems
  - Testing of critical elements of large span bridges
  - Testing of high strength materials



# EUROCODE implementation

- ⦿ Cooperated prenormative research to support the implementation of EUROCODES in Croatia
- ⦿ Support to organization of seminars related to implementation of EUROCODES for Croatian engineers

# Possible framework for cooperation

- ◎ PROPOSAL UNDER THE WAY:  
called **SERIES** in support of existing research infrastructures.

Provided that the project will be accepted, there will be funds available to external users for access to 6 large installations - ELSA being one of them - to conduct cooperative experiments which will be largely supported by the project (cost of the model as designed by the users, cost of its testing by ELSA staff and travel/subsistence to participate to the experimental campaigns).

This project could be in the project a good framework for cooperation.

*Thank you for your attention!*

