CIVIL ENGINEERING

AND THE “3i”

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- **EUROPEAN COUNCIL OF CIVIL ENGINEERS**

TO HAVE A DEVELOPED CIVIL ENGINEERING WE NEED 3 COLUMNS ("3I")

-"I"NVESTMENT
-"I"NOVATION
-"I"NTERNATIONALIZATION

FIRST "I"

"I"NVESTMENT

INTERNATIONALIZATION AND MOBILITY IN CIVIL ENGINEERING

PUBLIC INVESTMENT

.BRIDGES
.ROADS
.HOSPITALS

INTERNATIONALIZATION AND MOBILITY IN CIVIL ENGINEERING

PRIVATE INVESTMENT

.BUILDINGS
.FACTORIES
.OFFICES

INTERNATIONALIZATION AND MOBILITY IN CIVIL ENGINEERING

PUBLIC - PRIVATE INVESTMENT

.BRIDGES
.ROADS
.HOSPITALS

IF PUBLIC INVESTMENT STOPS

↓

COUNTRY ECONOMY DECREASES

↓

PRIVATE INVESTMENT REDUCES

↓

CRISIS IN CIVIL ENGINEERING

↓

HIGH UNEMPLOYMENT

EU INVESTMENTS

WHAT IS DOING ECCE IN BRUSSELS?

Thematic Group 1
Stimulating Investment in
Building Renovation, Innovation and Infrastructure

I. BUILDING RENOVATION

Target: Energy consumption reduction towards 2050

a) Energy renovation towards an energy labelling;
b) Implementation of monitoring systems;
c) Education programs for energy reduction behaviours.

Energy rehabilitation and the seisms:

- It is nonsense to make energy rehabilitation in a structural unsafe building;

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II. INNOVATION

Target: Implement Lifecycle Analysis

To implement lifecycle analysis:

a) Each material/component has a degradation cycle previously studied

b) Increase quality procedures in products

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Stimulating Investment in
Building Renovation, Innovation and Infrastructures

III. INFRASTRUCTURES

New Infrastructures Targets:

Trans-European Energy Infrastructure

Energy consumption will increase 100% till 2100;

Thematic Group 1
Stimulating Investment in
Building Renovation, Innovation and Infrastructures

III. INFRASTRUCTURES

New Infrastructures Targets:

Trans-European road and railway links

Each European will travel more than

11.000km per year till 2100;

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III. INFRASTRUCTURES

New Infrastructures Targets:

- Transports in sustainable European cities;
- Intermodal transportation systems;

Europeans living in cities will increase from 40% to 70% till 2100;

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Building Renovation, Innovation and Infrastructures

III. INFRASTRUCTURES

New Infrastructures Targets:

Coastal protection for ocean changes due climatic changes;

Increase of 3º in temperature will lead to increase in 1m ocean level and bigger waves till 2100;

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III. INFRASTRUCTURES

Management of Infrastructures:

Objectives:

a) reduced costs of maintenance
b) reduced need for substitution of infrastructures

CRISIS SOLUTION A

THE SECOND “I”

“I”NOVATION

- NEW BUSINESS NEEDS INOVATION

-TO BE COMPETITIVE NEEDS SPECIALIZATION

BE BETTER AND DIFFERENT FROM THE OTHERS!

New materials

Near-zero energy houses

INTERNATIONALIZATION AND MOBILITY IN CIVIL ENGINEERING

Domotic

Management of maintenance

INTERNATIONALIZATION AND MOBILITY IN CIVIL ENGINEERING

CONNECTION

INDUSTRY - UNIVERSITIES

CRISIS SOLUTION B

THE THIRD "I"

"I"NTERNATIONALIZATION

OCCURS WHEN:

a)INVESTMENT IS LOW;

b)TO INCREASE BUSINESS.

COMPANIES LOOK FOR OTHER MARKETS!

EUROPE
IS A UGE MARKET

PROBLEM:
MOBILITY OF ENGINEERS

ECCE WORK

INTERNATIONALIZATION AND MOBILITY OF CIVIL ENG. IN EUROPE

WHAT IS A CIVIL ENGINEER IN EUROPE ?

WHAT IS A CIVIL ENGINER ?

IN EUROPE WE SEE:

- VARIOUS TYPES OF ACADEMIC DEGREES (3, 4, 5, 6 YEARS)

- VARIOUS TYPES OF FORMATION (WIDE AND NARROW)

- VARIOUS TYPES OF CONDITIONS TO BE PROFESSIONAL

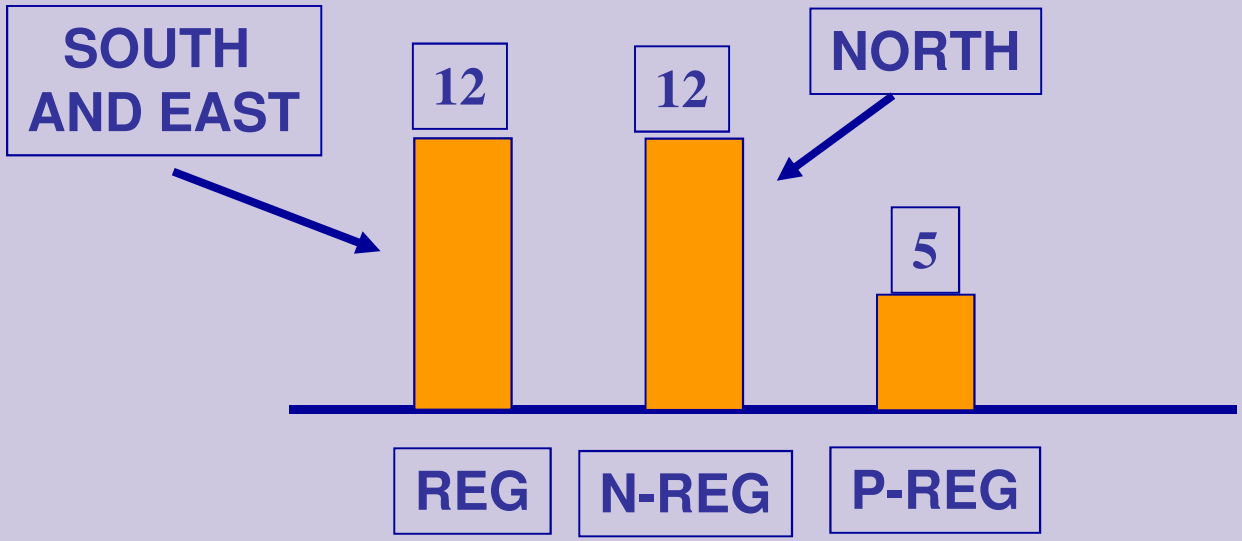
-VARIOUS TYPES OF PROFESSIONAL ASSOCIATIONS

TO BE CIVIL ENGINEER IN EUROPE

TYPICAL SITUATIONS:

- REGULATED PROFESSION
- NON REGULATED PROFESSION
- PARTIAL REGULATED PROFESSION

CIVIL ENGINERING IN EUROPEEN COUNTRIES



WHAT ARE THE PROBLEMS TO BE ENGINEER IN A FOREIGN COUNTRY ?

1. LANGUAGE

2. ETHICS, TECHNICAL AND ADMINISTRATIVE REGULATIONS

3. PROFESSIONAL RECOGNITION

1. CIVIL ENGINEERING ACTS MUST BE PERFORMED IN HOST COUNTRY LANGUAGE

EXAMPLE:

- DESIGN DOCUMENTS IN HOST COUNTRY LANGUAGE
- CONSTRUCTION CONTROL WITH TRANSLATOR

2. ETHICS, TECHNICAL AND ADMINISTRATIVE REGULATIONS FROM HOST COUNTRY

EXAMPLE:

- **EUROPEAN CODES**
- **HOST COUNTRY CODES**

3. PROFESSIONAL MOBILITY

THE REVISION OF

EU DIRECTIVE ON MOBILITY

2012

3.1 TEMPORARY MOBILITY

Temporary Mobility – ECCE considers that mobility through the concept of temporary mobility is useful for Civil Engineers.

Nevertheless it is frequently difficult to define the meaning of "temporary" as a construction work may vary from few months to some years.

So ECCE suggests that this type of mobility is associated to "temporary" and/or "to a specific work limited in time".

TO BE DEFINED BY EACH COUNTRY

3.2 PARTIAL ACESS

Compensation measures could be avoided awarding the" partial access"

Some countries (usually with regulated profession) included already this concept in the Directive

Allows a quicker recognition for situations where the civil engineer has a specialized academic education

IT IS ACCEPTED

3.3 PROFESSIONAL CARD

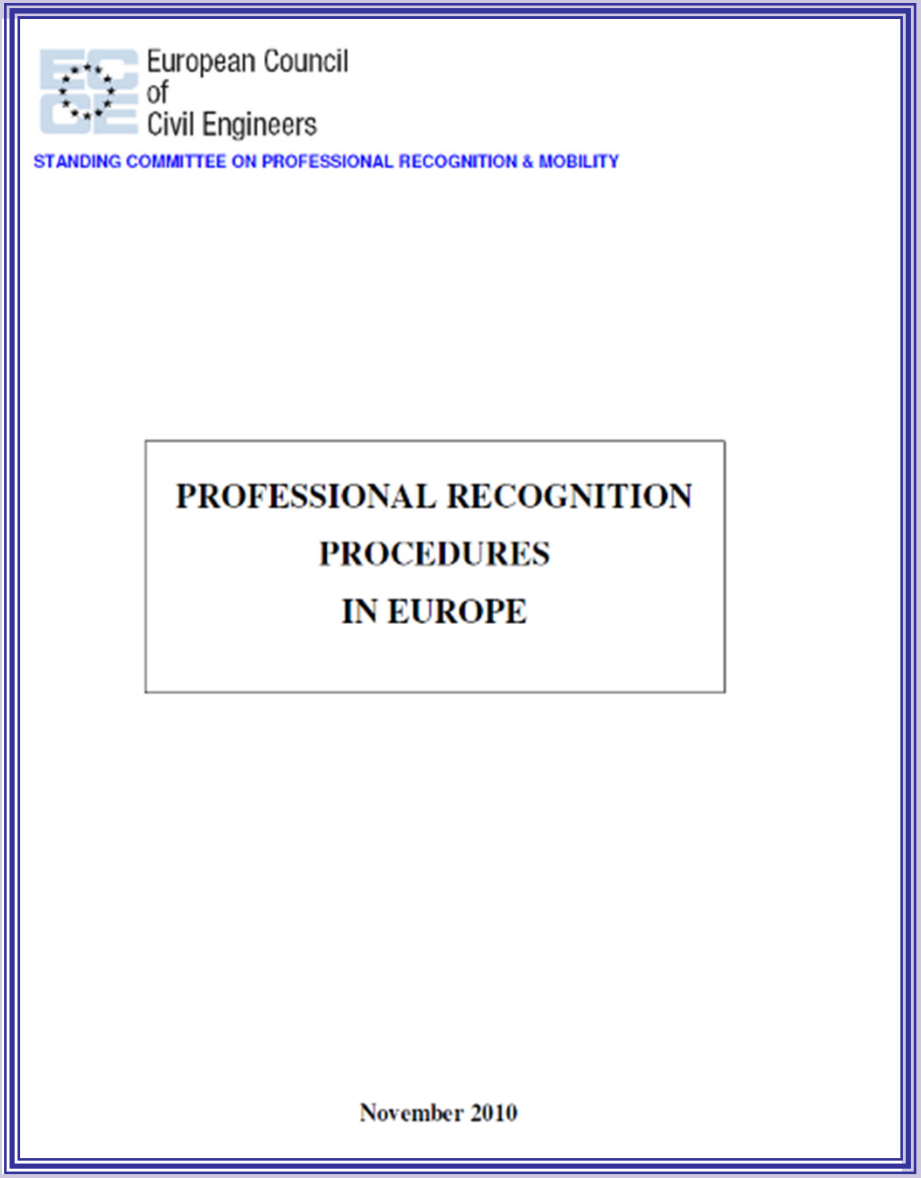
Professional Card – ECCE thinks that the concept of this card associated to a electronic certificate of the engineer curriculum may be useful.

This concept increases transparency and confidence, but it does not allow automatic recognition

The electronic data base should be controlled by the chamber to which the engineer originally belongs;

IT IS PROPOSED WITHIN THE IMI
(Internal Market Information System)

INTERNATIONALIZATION AND MOBILITY IN CIVIL ENGINEERING



ECCE INFORMATION

http://www.ecceengineers.eu/

EU INFORMATION

http://ec.europa.eu/imi-net

END

"Civil Engineers at the Heart of Society building

Life Quality and a Sustainable Environment"

- EUROPEAN COUNCIL OF CIVIL ENGINEERS