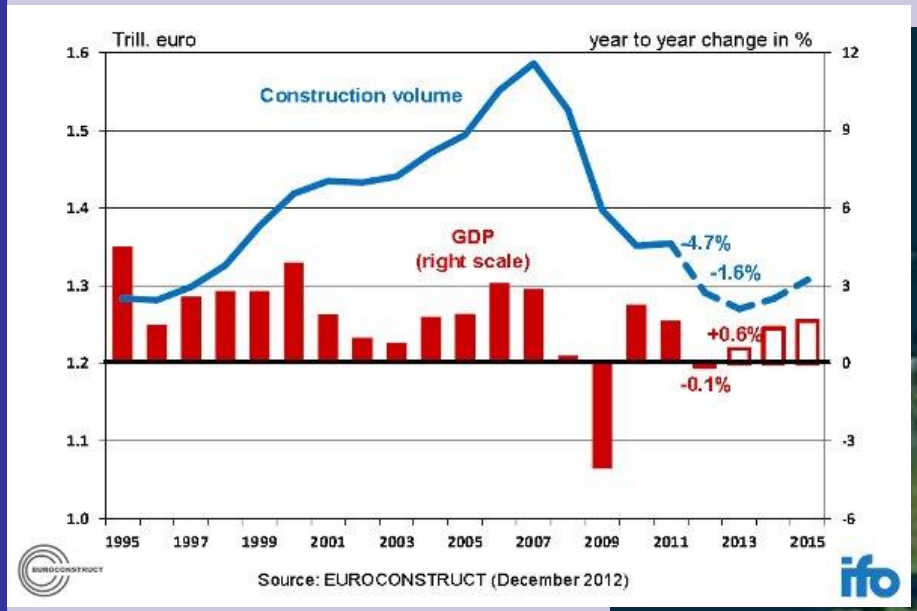
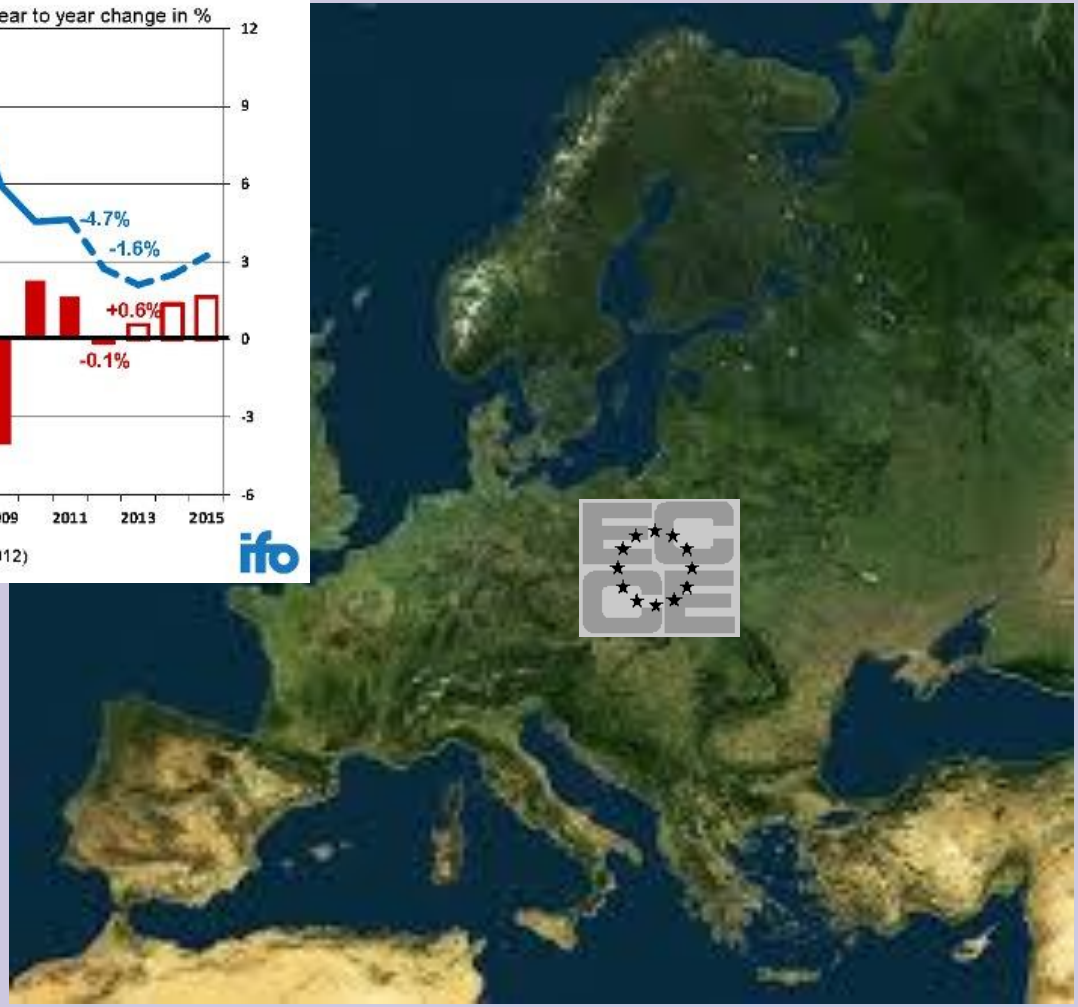

ENGINEERING CHALLENGES
FOR A FUTURE EUROPE
FERNANDO BRANCO


THE CONSTRUCTION HURRICANE
2008

ENGINEERING CHALLENGES FOR A FUTURE EUROPE

EUROPEAN COUNCIL OF CIVIL ENGINEERS





- EUROPEAN COUNCIL OF CIVIL ENGINEERS

IF PUBLIC INVESTMENT STOPS

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COUNTRY ECONOMY DECREASES

↓

PRIVATE INVESTMENT REDUCES

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CRISIS IN CIVIL ENGINEERING

↓

HIGH UNEMPLOYMENT

ENGINEERING CHALLENGES FOR A FUTURE EUROPE

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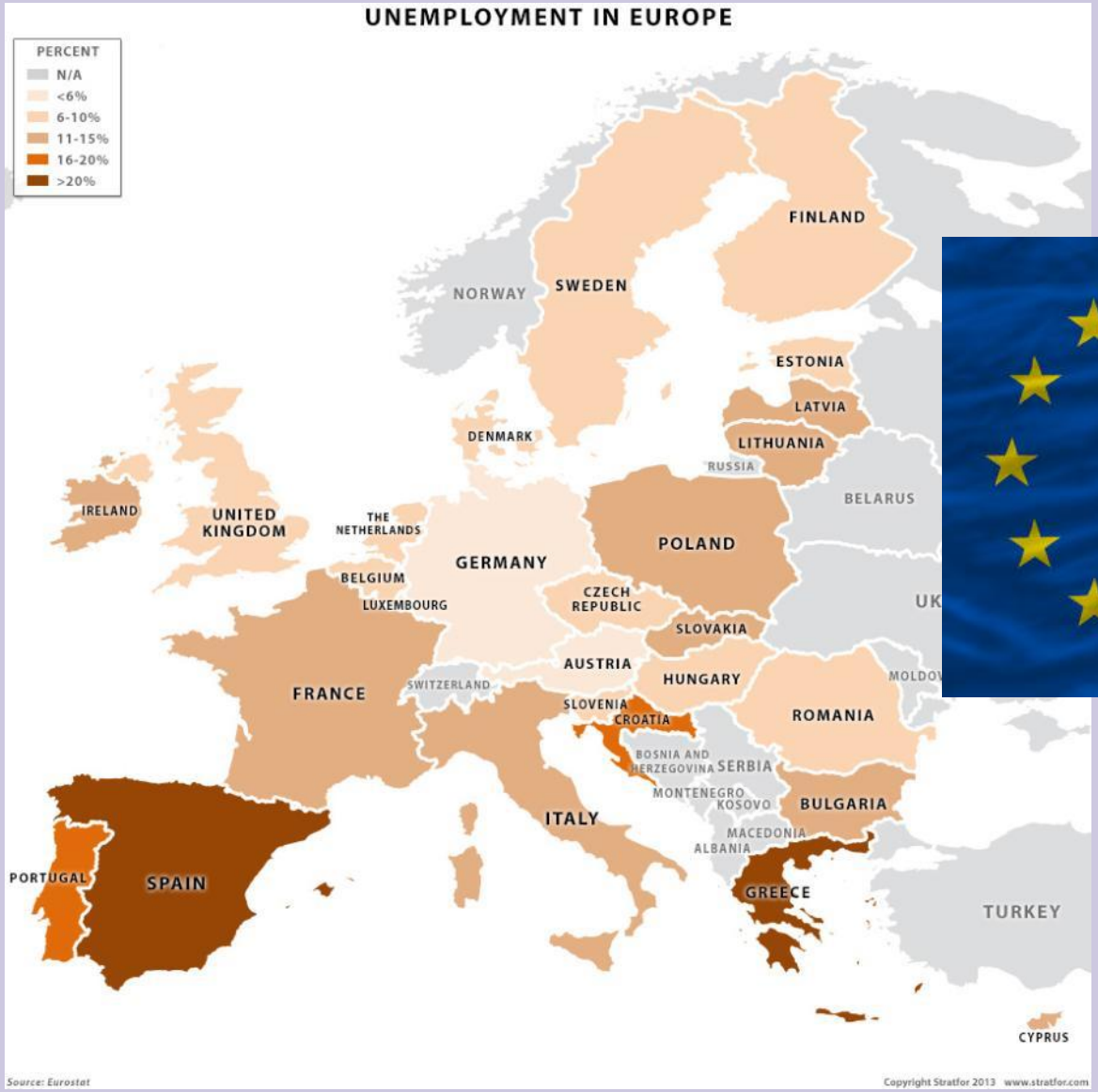


TO HAVE A DEVELOPED CONSTRUCTION SECTOR WE NEED "3I"

-"I"NVESTMENT

-"I"NOVATION

-"I"NTERNATIONALIZATION

CRISIS SOLUTION A

FIRST "I"

"I"NVESTMENT

ENGINEERING CHALLENGES FOR A FUTURE EUROPE

EUROPEAN COUNCIL OF CIVIL ENGINEERS

PUBLIC INVESTMENT

.BRIDGES
.ROADS
.HOSPITALS

EUROPEAN COUNCIL OF CIVIL ENGINEERS

ENGINEERING CHALLENGES FOR A FUTURE EUROPE

PRIVATE INVESTMENT

.BUILDINGS
.FACTORIES
.OFFICES

EUROPEAN COUNCIL OF CIVIL ENGINEERS

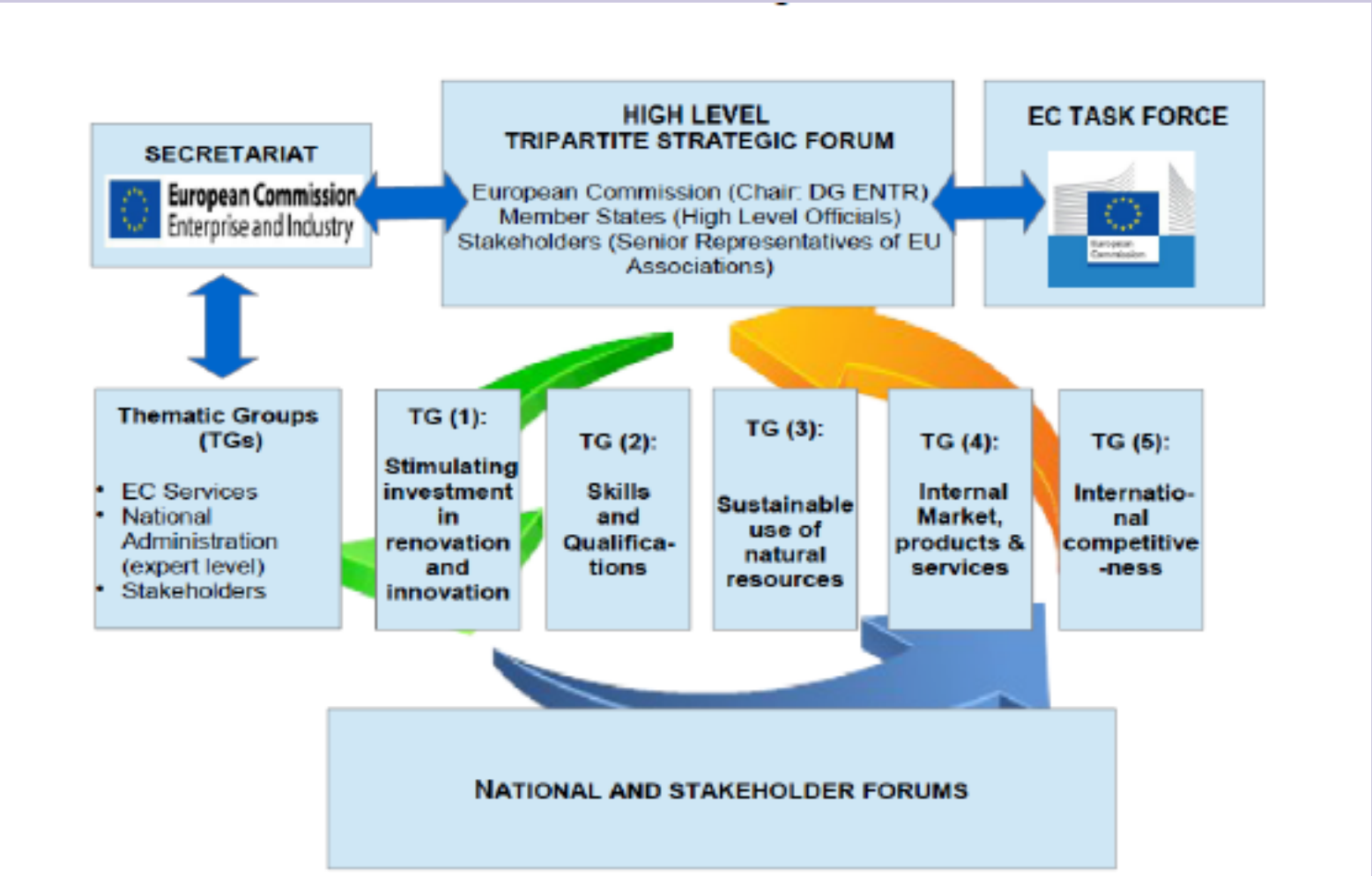
ENGINEERING CHALLENGES FOR A FUTURE EUROPE

PUBLIC - PRIVATE INVESTMENT

.BRIDGES
.ROADS
.HOSPITALS

EU INVESTMENTS

WHAT IS DOING BRUSSELS?



ECCE MEMBER OF EU HIGH LEVEL STRATEGIC FORUM FOR CONSTRUCTION

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

I. BUILDING RENOVATION

Energy consumption reduction till 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;

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

II. NEW INFRASTRUCTURES

Trans-European Energy Infrastructure

Energy consumption will increase 100% till 2100;

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

II. NEW INFRASTRUCTURES

Trans-European road and railway links

Each European will travel more than

11.000km per year till 2100;

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

II. NEW INFRASTRUCTURES

- **Transports in sustainable European cities;**

- **Intermodal transportation systems;**

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

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

II. NEW INFRASTRUCTURES

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;

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

III. EXISTING INFRASTRUCTURES

Management of Infrastructures

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

CRISIS SOLUTION B

THE SECOND "I"

"I"NOVATION

-NEW BUSINESS NEEDS INOVATION

-TO BE COMPETITIVE NEEDS SPECIALIZATION

BE BETTER AND DIFFERENT FROM THE OTHERS!

LEADING EUROPEAN SOLUTIONS

New materials

Near-zero energy houses

CONSTRUCTION SUSTAINABILITY

Management of maintenance

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

I. INNOVATION

Implementation of Lifecycle Analysis

To implement lifecycle analysis:

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

b) Increase quality procedures in products

THE MAIN TARGET

CONNECTION

INDUSTRY - UNIVERSITIES

CRISIS SOLUTION C

THE THIRD "I"

"I"NTERNATIONALIZATION (AND MOBILITY)

COMPANIES LOOK FOR MARKETS WITH HIGH PUBLIC INVESTMENTS!

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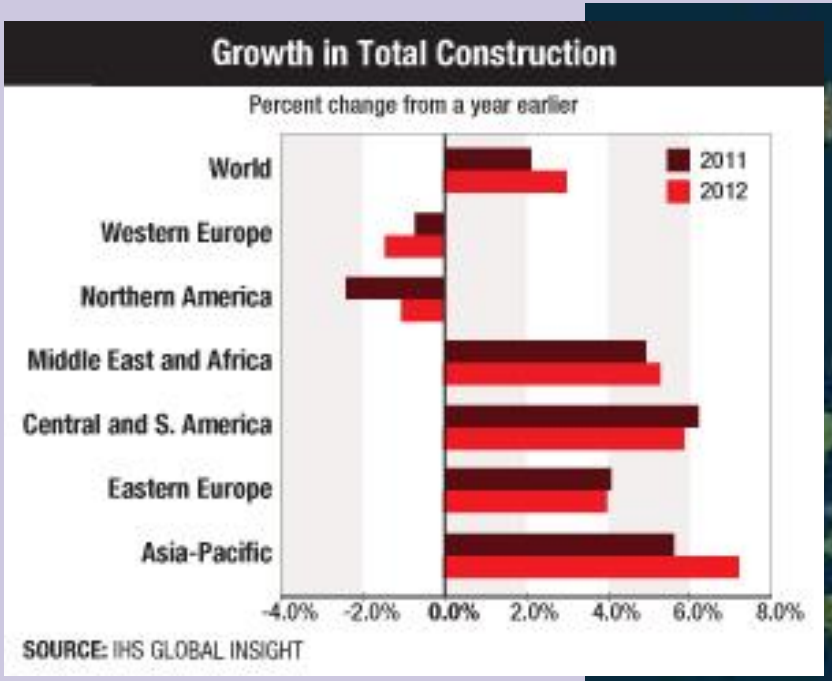


- EUROPEAN COUNCIL OF CIVIL ENGINEERS

EUROPE
IS ALSO A UGE MARKET

THE MAIN PROBLEM:
MOBILITY OF ENGINEERS

ECCE WORK

INTERNATIONALIZATION AND MOBILITY OF CIVIL ENG. IN EUROPE

1. 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

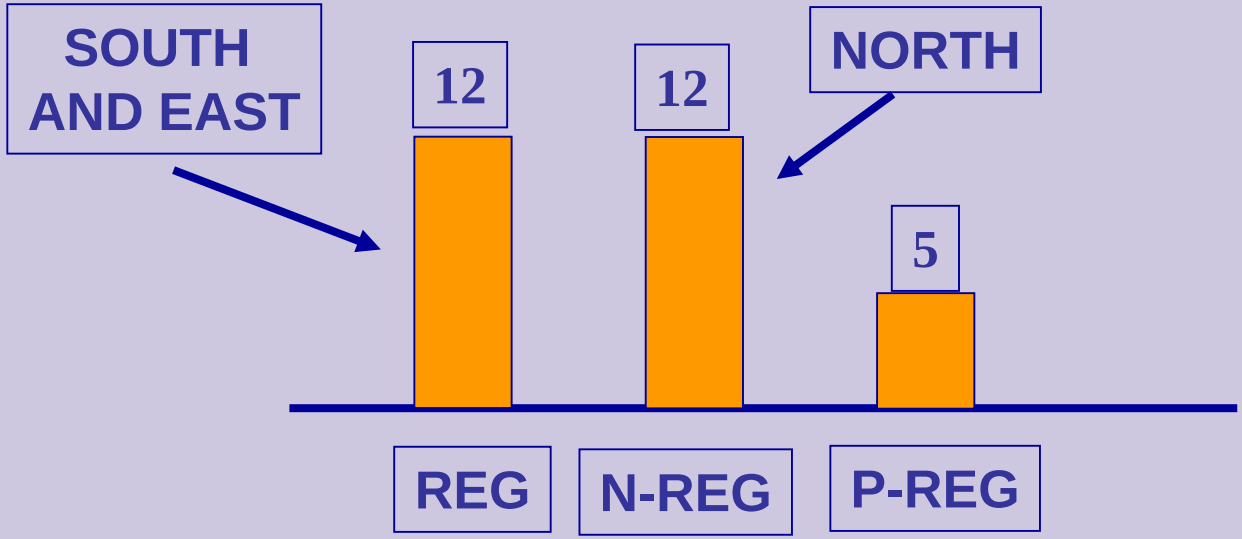
-VARIOUS TYPES OF PROFESSIONAL ASSOCIATIONS

TO BE CIVIL ENGINEER IN EUROPE

TYPICAL SITUATIONS:

- **REGULATED PROFESSION**
- **NON REGULATED PROFESSION**
- **PARTIAL REGULATED PROFESSION**

CIVIL ENGINERING IN EUROPEEN COUNTRIES



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

1. LANGUAGE

2. ETHICS, TECHNICAL AND ADMINISTRATIVE REGULATIONS

3. PROFESSIONAL RECOGNITION

3. PROFESSIONAL MOBILITY

THE REVISION OF

EU DIRECTIVE ON MOBILITY

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)

EUROPEAN PROFESSIONAL CARD
CASE 1: Establishment - Automatic recognition

Applicant

1. Applies for a professional card for establishment (enclosing all requested documents)

Home MS Competent authority

2. Checks if the application file is complete and sends an acknowledgment of receipt
3. Checks the authenticity and validity of documents
4. Creates a professional file in IMI (with all supporting documents)
5. Creates the European professional card and transmits it to the host MS for validation via IMI
6. Informs the applicant

IMI

Repository of professionals' files

Host MS Competent authority

7. Examines the professional file in IMI and may request additional information to the home MS
8. Validates the card
9. Makes the card available for the applicant

BUT FOR ALL THIS, WE NEED CIVIL ENGINEERING STUDENTS !

… BECAUSE THEY WILL BUILD OUR FUTURE


When I
grow up,
I'm gonna be a
civil engineer.