An opinion and initiatives
of the Slovenian Chamber of Engineers (IZS)
in regard to the ECEC proposal of
the Common Training Framework for Chartered (Civil) Engineers

1. **CTF should only include level A Chartered Civil Engineers with full responsibility, where higher education is a total of at least five years or fulfilment of minimum 300 ECTS.**
   We do not agree with the proposal of CTF, which also includes Level B Civil Engineer with restricted responsibility (three years or fulfilment of minimum 180 ECTS) for the following reasons:
   - Civil Engineer who has finished the second Bologna degree (300 ECTS) has obtained much higher competences and more professional knowledge as a Civil Engineer who has finished the first Bologna degree (180 ECTS);
   - The proposed CTF does not define competences of a Chartered Civil Engineer with second Bologna degree (300 ECTS) and competences of a Chartered Civil Engineer with first Bologna degree (180 ECTS);
   - In Slovenia a Civil Engineer who has finished the first Bologna degree (180 ECTS) cannot obtain an authorization as a Chartered Civil Engineer (for design and supervision at the building site); such Civil Engineer can obtain (only) an authorisation as a Manager of (construction) works at the building site;
   - **We propose** that a scope of authorisation is to be defined for a proposed regulated profession of an EU Chartered Civil Engineer; for example:
     - Chartered Civil Engineer with second Bologna degree (300 ECTS) is authorised for design of buildings and infrastructure, management of construction works at the building site and supervision of construction at the building site;
     - Chartered Civil Engineer with first Bologna degree (180 ECTS) is authorised for management of construction works at the building site;
   - It is necessary to mention, that is hard to compete for the same rights with Chartered Architects, if their minimum acceptable level of education is higher (second Bologna degree (300 ECTS)); e.g. in Slovenia Chartered Architects wish to have an exclusive right to be a Design manager; they also want to have an authorisation to be a Manager of (construction) works at the building site; if they will succeed, this could lead to the abolishment of the regulated profession of a Chartered Civil Engineer

2. **We do not agree with Draft list of knowledge, skills and competences since it is not appropriate because it is far too general. The proposed description of knowledge, skills and competences would make it possible also for individuals with insufficient technical and engineering skills to obtain the authorization to become a Chartered Civil Engineer.**

   - List of knowledge, skills and competences should and must specify the specific engineering skills that an individual who wishes to acquire the professional title of a Certified Civil Engineer must have;
   - That is why we propose to upgrade this List of knowledge, skills and competences;
   - We are attaching a translation of the official Competence profile for the Chartered Civil Engineer with 300 ECTS valid in the Republic of Slovenia;
   - **We propose** that in the first step this Competence profile is to be examined by ECEC ExBo and ECEC members and in the next step this or such Competence profile is included into the CTF proposal

3. **Only those Chartered Civil Engineers of ECEC members and Civil Engineers of other EU members who have comparable knowledge, skills, competences and authorisations in their home countries should benefit from CTF. The CTF proposal should therefore include an Appendix with a List of comparable Civil Engineering professions of all EU countries.**
   - Chartered Civil Engineer of ECEC members and Civil Engineers of other EU countries have different knowledge, skills and competences as well as authorisations in their home countires;
   - Therefore, only those who have comparable knowledge, skills, competences and authorisations should benefit from CTF;
   - To define comparable Civil Engineering professions of all EU countries an analysis of a regulated profession of a Chartered Civil Engineer of EU countries should be made first; it should include:
     - a description of the scope of authorizations;
     - a description of the conditions to acquire each of these regulated professions (required level of education, engineering practise, professional exam, insurance etc.);
   - Secondly, an analysis of authorisations of Civil Engineering professions of EU countries with no regulated profession of a Chartered Civil Engineer should be made;
   - Thirdly, on the basis of above two analysis a List of comparable Civil Engineering professions (regulated and non-regulated) of EU countries should be made and this List should become a part of CTF proposal (Appendix);
   - We believe that such a List is absolutely necessary for an implementation of CTF; without it an implementation of CTF in practice is not possible;
   - **We propose** that ECEC grants a project money for the establishment of above-mentioned analysis and outsources the work

4. **We are against carrying on <u>any</u> CTF activities with National Coordinators and European Commission until an improved version of CTF proposal is prepared and accepted by the majority of ECEC members; this majority should be significantly higher than 50% since it should guarantee a majority of more than one third of all EU members, necessary for the acceptance of CTF on EU level.** Otherwise, time and money will be spent in vain.

5. **We do not agree with the ECEC ExBo proposal that the CTF activities are in the name of ECEC carried out by CEPLIS office.**

This opinion was accepted by
The Managing Board of the Slovenian Chamber of Engineers

Date: 31 August 2023

REQUIRED EDUCATION OF A CHARTERED ENGINEER OF CIVIL ENGINEERING

GROUP	TOPICS	ECTS (min)	ECTS (min)
A. Fundamental theoretical courses	Mathematics	12	39
	Physics	6	
	mechanics (statics, strength of materials, dynamics, hydromechanics)	21	
B. Fundamental professional courses	Construction and building materials	7	105
	Geodetic engineering	3	
	Design of buildings, building physics, efficient use of energy, sustainable use of resources, living conditions and health in buildings	9	
	Spatial planning	3	
	Hydraulic engineering, hydrology, floods, water infrastructure, fresh water supply, waste water treatment	9	
	Geotechnical engineering, geology, soil and rock mechanics, foundations, earthworks, tunnels	10	
	Organization and management of construction works, project management, QA/QC, technology of construction works	15	
	Structural analysis, earthquake engineering and fire engineering	10	
	Traffic infrastructures (roads, railways, airfields, ports)	7	
	Information technology, digital design	6	
	Masonry and concrete structures	8	
	Steel structures	4	
	Timber structures	4	
C. Advanced and elective courses	Advanced topics from groups A and B and other topics on structural, geotechnical and civil engineering	75	75
D. Together required (A + B + C) (Diploma work, master thesis and practical training are not included)			219

Explanation:

(A–C) Within groups A to C, theoretical and fundamental courses closely connected with the work of a chartered engineer in the field of structural and civil engineering are requested.

(A–B) Study program has to contain all listed topics but not necessarily all mentioned subtopics in the column "topics" (e.g.: Within the topic Organization and management of construction works the candidate can fulfil the requirements either with courses on construction management or on QA/QC or on project management or on construction technology).

(C) Advanced and elective professional topics of minimum 75 ECTS have to cover broader field of civil engineering and related sciences. These topics allow students to specialize within their profession.

Requirements and allowable deviations:

Chartered engineer has to complete master study of civil and structural engineering (300 ECTS).

Within the group B a deviation of 1 ECTS is allowed for a maximum three topics for which the required ECTS amount is larger than 3.

Specific competences of a chartered engineer of civil engineering:

- fundamental specific professional knowledge in the field of construction, especially in the field of planning and design, organization, management, management and execution of construction works, construction production, construction informatics, ecology and spatial planning,
- independent design of demanding buildings and civil engineering structures,
- independent management of demanding projects in the field of construction,
- understanding of the mutual influences of technical and environmental problems and the ability to design and construct environmentally friendly structures,
- independent performance of demanding tasks in the field of construction,
- organization, management and implementation of research and development in the field of construction,
- mastery of basic knowledge in the field of construction (natural sciences, mathematics, mechanics, materials), the ability to connect knowledge from different fields and the ability to apply knowledge,
- application of knowledge in specialized fields of civil engineering (all types of structures, transport infrastructure, hydraulic facilities, earthquake engineering, geotechnical engineering, municipal and environmental engineering),
- management of design and construction companies and similar organizations.