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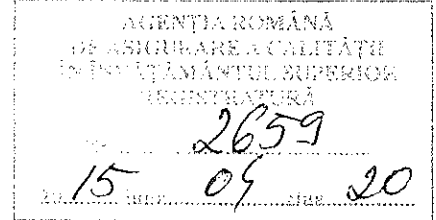
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Contract POSDRU/155/1.2/S/141894



REPORT
of the foreign evaluator for the
“TECHNICAL UNIVERSITY OF CIVIL ENGINEERING OF
BUCHAREST – UTCB

Date: April, 08. 2015.

ETS – FOREIGN EVALUATOR EXPERT

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1. INTRODUCTION AND CONCLUSION

In the beginning of December 2014, I was nominated by CEENQA - Central and Eastern European Network of Quality Assurance Agencies in Higher Education from Düsseldorf to serve as a foreign expert of CEENQA in the external evaluation process of HEIs in Romania in 2015. In the end of 2014, I was informed by ARACIS (Romanian Agency for quality assurance in higher education) that I was appointed for a member of external evaluation team for TECHNICAL UNIVERSITY OF CIVIL ENGINEERING OF BUCHAREST – UTCB for the period from the 23rd to 27th March 2015.

In the course of preparations for the external evaluation process, in addition to the Contract with the ARACIS Agency, I found on the website many useful pieces of information that presented a solid basis for the mentioned process (e.g. External Evaluation of Academic Quality in Accredited Higher Education Institutions – External Institutional Evaluation, dated December 2010; Methodology for External Evaluation, dated December 2006; Law on the approval of the Government Emergency Ordinance No. 75/2005 regarding the education quality assurance, dated April 2006). Also, on the web-site of UTCB, beside many useful data regarding the teaching process, scientific & research work, and student life, I found the EUA – Report on the executed external evaluation in 2013, Development strategy of UTCB for the period 2011 – 2016, etc. During February, the Internal evaluation of UTCB, prepared for this external evaluation process on 76 pages and with the attachments (more than 100 various documents, schemes, etc.), was submitted to me. Unfortunately, some documents were only in Romanian language, and therefore, I was not able to have a full insight in all provided materials.

More than 30 years I have spent in the higher education sector, what now has helped me make the comparative analyses of state of UTCB. For 12 years, I was a Vice-rector of the University of Zenica, and I have an extensive experience regarding preparations for external evaluation processes, which were done by the National agency of higher education of Slovenia (in 2008), EUA - European University Association (in 2009), accreditation of several study programs by VH LORA Agency (Brussels) and AQU (Barcelona) during the period from 2011 to 2013. As a PhD candidate, I spent 3 years on renowned EU universities (1996-1999): Technical University Aachen (RWTH Aachen), Politecnico di Torino and Universidad Politecnica de Catalunya Barcelona.

This visit and all meetings at UTCB were prepared and organized at the high level, and dedication of all participants, from Rector to students of UTCB, was great. All documents, which were additionally asked for (teaching plans, guidebooks, diploma supplements, etc.), or separate meetings with specific participants, were submitted/arranged in due time.

Most meetings of the whole team or conversations with stakeholders and students were in Romanian language; so, in spite of having the available adequate translators, it was not possible to translate all communication, since it often happened that many persons talked simultaneously. After the working hours, translators delivered me their notes in English containing parts which they did not manage to translate during the meeting, and it helped me hugely to grasp the whole situation.

I would like to point out here that all students and professors in our direct communication in English were very open and spoke fluently one or even more foreign languages.

Considering the following parts of this report, I would like to say at the beginning that TECHNICAL UNIVERSITY OF CIVIL ENGINEERING OF BUCHAREST – UTCB is a renowned HEI with a long tradition of teaching-scientific process, scientific-research work and a wide spectrum of services in the business sector of Romania, what, from my point of view, makes UTCB worth of very good grades for external evaluation and secures the entitlement for a full institutional accreditation.

Recommendations, and my minor critical reviews in the following part, should be understood as a sincere wish for constant, new betterment of the state of UTCB in accordance with the good practice of quality assurance system, what will enable employees to further develop the quality culture and to build the common house of quality.

2. GENERAL IMPRESSION ABOUT “TECHNICAL UNIVERSITY OF CIVIL ENGINEERING OF BUCHAREST – UTCB” (data from site-visit, web-pages and different documents)

Higher education in civil engineering in Romania came into being in 1864 by founding The School of Bridges and Roads, Mines and Architecture. It became The School of Bridges, Roads and Mines in 1867 and The National School of Bridges and Roads in 1888. As a result of the Education Reform in 1948, the Faculty of Civil Engineering separated from the Polytechnic School (which became The Polytechnic Institute) and became an independent higher education establishment called the Civil Engineering Institute Bucharest. In 1994 it adopted the present name – the Technical University of Civil Engineering of Bucharest. From 1948 to 2014, more than 60000 engineers graduated from the Technical University of Civil Engineering.

The UTCB is accredited for all higher education levels: Bachelor, Master and Doctorate. More than 4600 (4641) students are currently matriculated for Bachelor studies, 1685 for Master studies and 314 for PhD studies.

The Technical University of Civil Engineering of Bucharest is recognized internationally both in the field of engineering education at the bachelor, master and doctorate levels in the science and technique of civil engineering and installations, and in scientific research.

Many national, European and international research and education projects are being carried out in UTCB. For example, UTCB is a founding member and coordinator of the EUCEET thematic network which comprises 50 partner institutions in 21 European countries. In March 2001, the Technical University of Civil Engineering of Bucharest signed a *Double-Diploma* agreement with École Nationale des Ponts et Chaussées, the first agreement of this kind in the Romanian technical higher education. (updated in 2011).

The most important notes regarding this chapter would be as follows:

- Long tradition in the field of education and research activities;
- Highly educated staff, motivated for serious work;
- Recognized position inside the Romanian society and HEI (Higher Education Institutions) and RDI sectors (Research & Development & Innovation);
- Huge number of international protocols on cooperation;
- Good university autonomy and freedom inside Romania, which are not so often in the countries with more tradition of HE or democracy;
- Strong organizational structure, a characteristic of technical universities with many levels of management;
- Good relationship among stakeholders (ministries, entrepreneurs, former students, society, business sector etc.);

The general recommendations regarding this part of considering the UTCB work would be the following ones:

- University must upgrade from Quality Assurance phase to Quality Improvement phase;
- Quality assurance system has to be more devoted to the teaching process, while the talks with the teaching staff and students gave the impression that numerous procedures are more adapted to the business-technical cooperation than to the teaching process;
- In a wide organizational structure, there is no body in charge of the strategic development; also, there is no adequate control of this body. High devotion of management can hardly compensate this lack.

3. GENERAL IMPRESSION ABOUT THE DOCUMENT "THE SELF-EVALUATION REPORT (SER)"

The most important notes regarding the self-evaluation report would be:

- Document is more a descriptive than analytical and critical overview of the UTCB work;
- There are no SWOT (Strengths&Weaknesses&Opportunities&Threats) and PESTLE (Political & Economic & Social & Technological & Environmental & Legal) analyses, which are needed for providing many short but useful data about state of UTCB and society;
- It would be good to provide the SWOT analysis after each chapter of SER, while these analyses have huge importance in the segment of strategic and operative planning for all levels of management;
- Lack of KPI inside the documents (there is no clear list of KPI, software for KPI, KPI as a tool for management functions for rectors, vice-rectors, deans etc.)
- After the weaknesses and possibilities are detected, the QA team has to define possibilities for improvement and put it in an annual plan for the following year with clearly stated duties, persons responsible and terms.

Recommendations on the institution's activity:

- Key Performance Indicator lists (KPI) should be put after every chapter inside SER with data for several years and trends/graphics for discussions and explanation
- Document of SER must be more critical than descriptive and there is no need to be open for broad community (printed and distributed outside of UTCB or put on the web-pages)

4. ASSESSING THE ACADEMIC INFRASTRUCTURE, HUMAN RESOURCES AND MANAGEMENT

UTCB's material resources namely land and buildings are distributed in six locations. These lands have a total area of 9,07 ha, while the buildings have a total gross building area of 93690 m². From this total built-up area, 51851m² represent teaching spaces while 41839 m² are administrative or auxiliary spaces.

Currently, the Technical University of Civil Engineering of Bucharest has remarkable academic staff composed of 440 members (74 professors, 98 associate professors, 159 lecturers and 109 assistant professors), famous both for their teaching and research activity, and for their direct contribution to some of the most important construction works in our country.

The governance structures of the Technical University of Civil Engineering Bucharest are: the University Senate, the Administration Council, the Boards of the Faculties and Departments clearly shown in the organizational chart. The operational management of the UTCB is provided by the Administration Council, which includes the rector - as president, vice-rectors, deans, the general director for administration and a student representative who is also a member of the Senate.

Academics are attached to particular departments not directly to the faculties. The faculty councils decide the curricula and then turn to the departments for execution. Research is organised by the departments and the research centres. Any decision related to recruitment or promotion must be approved by the Senate and, ultimately, by the rector. The faculties and departments do not have their own budget.

These are conclusions after we visited the premises and after the conversations, during the visit to UTCB, were done:

- In the most cases, the premises were adequately equipped, according to the needs (lecturing rooms, libraries, classrooms, etc.)
- Dormitories satisfied the standards of accommodation for the great part of the student population;
- Premises have an adequate wireless connection (on faculties and in dormitories, canteens, etc.)
- There is an excellent infrastructure for various sport activities;
- There is a solid number of the employed persons in the teaching process and in the research work, comparing to the number of students;
- Huge investment in the new equipment for some scientific fields;
- The Rector of the Technical University of Civil Engineering Bucharest is appointed on the very democratic way of election;
- The University has a high level of autonomy in making the management decisions and in management of its own work and development;

- Students are adequately represented in all decision-making and management bodies;
- There is a very solid ration between the number of employees in the teaching process and number of students, what is not the case in many countries in the times of crisis and reduction;
- Office of human resource management (HRM) has not reached its full capacity, regarding its activities or the employees; it is recognized as an important element of UTCB development.

Recommendations on the institution's activity:

- Old spaces of many buildings need to be reconstructed;
- Lack of money for maintenance of the equipment and space must be solved by pro-active work for whole staff;
- Period of donation of equipment are passed and staff must fight at the EU level for new projects and equipment;
- Delegating more decisions to the faculties and departments;
- A new strategy from 2016 year with precise milestones, resources, responsibilities etc. must be designed;
- A certain part of the budget, obtained on the basis of project activities, should be allocated to the faculties in order to strengthen the project approach and admittance of young research staff;
- There should be applied the adequate measures for human resource strengthening in order to enhance the work on project activities which have an international character;
- Management of human resources and development should be upgraded via human resources strengthening of the Office and via making the position of this Office more significant (not only for calculations of salaries and work time)

5. SCIENTIFIC RESEARCH ACTIVITY

The main part of academic staff is involved in research, design and consulting activities, contributing to fundraising for future development, to enriching knowledge in the field as well as to raising the quality of education.

After the documentation was reviewed, visits and talks with the main actors of the process done, the main observations would be:

- Long tradition in the field of research
- 0,6% state budget spent for RDI (0,4% ROM funds + 0,2 from EU funds) which definitely is not enough
- High rate and number of projects financed by the National Ministry of Science
- Low level of the number of FP 7 projects (only 3); Results are better in the programs FP5 and FP 6 (15-20)
- Recognized benefits from services and activities done for industrial sector
- Too many research departments (6) and research centers (18) for the university with 400 employees

- The annual growth in the number and value of the research contracts between 2010 and 2014 for each sector are available in the SER, but there are no diagrams, KPI list, trends analysis etc.
- PhD school is well organized with nice balance between so-called education (60 ECTS) and research (120 ECTS)
- All data about PhD school are available on <http://sd.utcb>. (mainly in Romanian language)

Recommendations on the institution's activity:

- Internationalization must be clearly defined with special attention given to the EU programs for RDI (Research & Development & Innovation);
- University strategy for RDI must be clearly defined;
- Catalogue on the RDI potential of the UTCB must be realized in a unique form for all faculties (department, centers) - it has to be published and provided in the electronic version for a broad promotional activities;
- Organizational structure must be adapted to the real situation in the field of HRM (e.g. so many research centres);
- The University must recognize the benefits from development of TTO (Technology Transfer Office) which will be a place for project management regarding all aspects, because UTCB-DMCDI participates only in a small part of assistance. This is very important for future applications to Horizon 2020 Program;
- It is important to arrange all data about PhD school in English and other international languages, because in the future, it will be the most progressive part of UTCB
- More internationalization in organization of PhD is quite important (networking with foreign partners and partners from Romania in the organization of joint courses and joint degrees)
- International protocols of cooperation must be connected with real benefits for RDI application (networking);
- PhD School has to be better connected with vice-rector for science and TTO;
- It is needed to achieve a greater level of coordination and cooperation with other universities of a kind in Romania or to apply the multidisciplinary approach in cooperation with the universities in Bucharest, in order to avoid multiplying the same or similar doctoral studies;

6. REMARKS AND ANALYSES OF PLEANARY MEETINGS WITH THE KEY INTERNAL AND EXTERNAL STAKEHOLDERS

Conversations with the students of all cycles were focused on the curricula contents, the Bologna process, student workload, student standard, internationalization, competences and other important topics. Students were very interested in talking with the members of Commission, and they demonstrated a very good knowledge and competence of speaking in English. Regarding organization of these meetings, the general remark was that groups of students were too big (approximately 30-40), since there was app. 1,5 hrs there was not enough time for everyone to have chance to express the opinion, so it often happened several participants simultaneously talked. Groups for this kind of meeting should optimally have from 10 up to 15

participants.

a) GENERAL IMPRESSION ABOUT TEACHING AND LECTURING AND STUDENTS' STANDARDS

UTCB is permanently concerned with offering its students all the useful information which can support them throughout all the stages of their educational process. The admission of students for Bachelor's, Master's and doctoral studies are regulated and approved by UTCB's Senate for each type of admission. The various activities connected to the admission process are rigorously described in internal procedures which are distributed and explained to teaching staff in a special meeting dedicated to the admission process. The results obtained by the students are transcribed in the *Academic Transcript of Record*, which is filled in and issued at graduation, together with the Bachelor's Diploma and the diploma supplement. Academic records for students are completed during all study years.

The main observations, after conversations with the key actors of this part of the process, would be:

- Lack of interest of the young generation for studying the technical sciences
- Great fall in ratio specially in the first two years of education (200 students at the first year, and at the end, less than 60 – Faculty of geodesy)
- Too much of theory in the education and too little of practical work (in the curricula is stated 300 hours per 4 years)
- Relatively low level of the knowledge of ECTS system and student workload, competences and learning outcomes
- Clear procedure for admission
- Study programs are clearly defined with all obligations of students (exams, exercises, tutorial, colloquium, projects, seminar etc.)
- Students emphasize problem with mobility (UTCB doesn't recognize all ECTS credits from a host university, problem with recognition at the UTCB – lack of learning agreement)

Recommendations on the institution's activity:

- Number of hours for practical work must be increased (within a semester and in the summer time)
- Training in leadership, team working, foreign languages, is crucial (a role of the Center for development of career and competences)
- Internationalization must be a priority for UTCB (not only the bilateral agreements of the Rectors Office) – it must promote students and staff mobility, joint projects, RDI projects (Erasmus+, Horizon 2020...)
- Many pieces of documentation regarding the work with students (as a basis for SER) were only in Romanian, and in the sense of greater level of internationalization of student body, it should be printed in a greater number of foreign languages;
- Strengthening cooperation with other Romanian technical universities, e.g., by rationalizing the course offer and encouraging mobility within Romania. Internal mobility within Romania would, in turn, encourage international, outgoing mobility.

b) MEETING WITH STUDENTS

Observations:

- A big group of students (about 40) at the meeting
- Students are very interested in their own position inside the university structure
- Limited knowledge about the Bologna process (ECTS system, mobility, student workload,)
- Students are satisfied with accommodation, prices for meals, sports infrastructure and life conditions
- Lack of leadership skills
- Students emphasized too theoretical work in the educational process, and lack of practices

STUDENTS OBSERVATIONS:

- The curriculum is too much oriented to theory .
- The practical activities are insufficient (in total, only 3 weeks during the bachelor-program and another 3 weeks during the master-program)
- Many times, students do not find the right place to exercise the practical activity and they have to accept places for practical activities which are not fitted for their specialization
- The laboratories of the UCTB University are furnished with outdated equipment and the students do not have the possibility to get acquainted with the current trends in their activity field. The students use their own methods to find out about the newest technology in their field
- The teachers are using obsolete methods of teaching
- There are subjects in the curriculum which have nothing to do with their specialization
- The students are not encouraged to practice the mobility to the other universities, because the credits they get at other universities are not, or very difficult, recognized by their own university
- The UCTB do not encourage enough the students to practice the mobility abroad. The university is not enough involved in networking with other universities from abroad, and also, the scholarships are not encouraging, only 500-600 euro/month (comparing to other countries participating in the program and their students who receive 1000 EURO/month)
- The state and the government are too little involved in sustaining and supporting the students to get better conditions and scholarships when they move to a foreign university for various periods of time.

c) MEETING WITH GRADUATES (MASTER + PHD CANDIDATE)

Here are the main observations after talking with the Head of PhD School and students who attended it:

- PhD School is developed at the central level for whole UCTB
- Lack of the RDI work at the master level

- Students were not familiar with new regulation about 3rd cycle of Bologna process (Salzburg I and II criteria, User guide for PhD candidates etc.)
- There is no connectivity with the national level (Romania) regarding PhD courses organization (there is no network or cluster)
- Lack of internationalization in master and PhD organization
- RDI activities are not recognized inside student community
- An excellent ratio between RDI activities and obligations of teaching process/taking exams, where the dominant part of obligations is RDI;

Recommendations on the institution's activity:

- Alumni networks need to be developed at the University and faculty levels and fully integrated with the faculty work (curricula innovation and redesign, business cooperation with former students, donations from alumni, mentoring, internship etc.)
- It is needed to upgrade the level of networking of UTBC in terms of the 2nd and 3rd study cycle for better quality and the multidisciplinary approach of work in this part of process and for enhancement of internationalization;
- There has to done more work on internal and external benchmarking;

d) MEETING WITH STAKEHOLDERS

- As students, the stakeholders also emphasized too theoretical work inside the education and lack of practices
- Some stakeholders think that students learn some units which are not useful in practice (specially in the field of IT)
- Generally, stakeholders are satisfied with knowledge of students
- Lack of knowledge in the field of marketing and communication, important for international work, is detected

STAKEHOLDERS OBSERVATIONS:

- Too many students abandon the study before graduating
- The employers complain that the students get too little practical skills during university time
- Many skills are missing completely, like sale and marketing ability (they are sometimes good prepared, but are not able to 'sell' themselves on the labour market or to sell the company's products and the services to the customers/contractors.
- Candidates, who are applying for job, are not familiar with the legislation relevant for their field of activity. There are specializations in which a candidate must know the laws and applicable standards.
- In comparison with the foreign students (for example, the Italian students), the Romanian students are strictly specialized for specific fields, what limits the scope of jobs they can apply for.

Recommendations:

- UTBC is in need of forming a permanent Stakeholders Forum with approximately 25 representatives (from business sector, ministries, chambers of commerce, associations, partner universities, parents...) with an advisory function in the field

- of development of new curricula, study programs, innovation, RDI approach, internships, practical work, summer schools, etc.
- Curricula should be evaluated, also, by the external stakeholders;
 - Issues regarding the student practice should constantly be harmonized with the Stakeholder Forum;
 - Partnering with locally-based international companies to compete for international R&D&I.
 - Expanding lifelong learning activities and using digitally-based, distance-learning.

7. THE BOLOGNA PROCESS

The greatest number of the Bologna process provisions has been implemented by UTCB, and done with a great dedication of staff. In SER, there is no a particular chapter referring to the Bologna process or the word "Bologna process", but the key determinants of the process can be found in many chapters.

Basically, the Bologna process clearly states:

1. Plain and comprehensive grading system and diploma supplement;
2. Three-cycle study system with the concepts 3+2+3 or 4+1+3 years;
3. System of transfer and accumulation of credits;
4. Mobility;
5. Cooperation regarding development of quality assurance system and its consistent establishment;
6. Promotion of the European dimension in education (EHEA) with a great internationalization;

Basically, all these provisions are implemented by UTCB. Certainly, a full implementation of all of them is often impossible due to the reasons which can be out of the University (e.g. financial mobility). Most likely, the big obstacle in the mobility programs and internationalization is that the technical faculties in Romania are mostly based on a concept 4+2+3, what, comparing to other EU countries, puts on their students bigger workload for obtaining certain diplomas/degrees. It is sure that the concept of only three years did not cause any significant interest in the EU and most of students keep pursuing the concept 3+2, which also confirms that a model of 4 years has not been overcome, as it has been frequently pointed out in the countries which prefer the concept of 3 years for the first cycle.

Recommendations for the part referring to the Bologna process and its implementation are these:

- ✓ It is needed to work more with the students and provide them with training for dissemination of information on ECTS system and student workload;
- ✓ Benchmarking method is often mentioned in SER, but its application is nowhere visible;
- ✓ In the part on internationalization and mobility, less than 5% (in total more than 100) of the signed protocols on cooperation are with the universities out of the EU. It is not good; specially, since in a new Erasmus+, as in the previous Tempus program, the greatest number of participant countries are out of the EU;

- ✓ Although, the ranking as a global phenomenon becomes more and more significant, it has not been treated with the sufficient attention, and it can serve as a magnet for attracting more foreign students;
- ✓ The outgoing titles and competences should constantly keep track of the global market labor needs, while graduates from UTCB “fight” for the jobs all around the world.

8. QUALITY ASSURANCE SYSTEM

From SER: “Quality Management Department (QMD) is part of the general organization chart of UTCB. The new method resulted in implementing a Quality Management System, based on the SR EN ISO 9001:2008 standard and on the SR EN ISO IWA 2:2009 agreement, certified by an autonomous certification organization, aimed at helping UTCB correlate the concepts in the ISO standards for the quality management system with the specificity of the education system, at the higher education level (both for teaching and research).”

On the basis of SER and talks with the employees of UTCB, it can be concluded:

- ISO 9001 system is fully implemented in all aspects of work;
- Many procedures with clear explanation of the role of key-actors (so-called “owner of the processes”) were designed;
- Clear position of QA department inside the organizational structure;
- There is no clear connection between ISO 9000 and ARACIS (ENQA) standards inside UTCB work;
- A clear business orientation of UTCB and numerous services/RDI projects, which are currently undergoing, put at the first place, without a doubt, standards from ISO 9001:2008 series, but regarding the teaching process, provisions of ENQA and ARACIS standards have to be a priority;
- There are no clear connections between QMD at the level of UTCB and the quality assurance system at the faculty/department level, and between many solutions, designed at the level of UTCB, and their application on faculties;

Recommendations on the institution’s activity:

- ISO 9001 system must be clearly connected with ENQA standards (ARACIS) especially in the field of education, where ISO 9001 produces some problems (it is too rigid sometimes);
- More effort for development of quality culture, done by all staff members, is crucial;
- A more participative approach that would involve staff and students;
- Finding opportunities to benchmarking activities with national and international partners, including for all 3 levels (graduate, master and PhD)
- Network of system of quality managers has to be clearly visible in all activities of UTCB, what will enable the transition from the QA phase to the QI (Quality Improvement);
- Quality system and its department at UTCB (QMD) have to have their clearly recognizable domain on UTCB web.

9. FINAL CONCLUSION

It is my honor to be a member of this respective Commission nominated by ARACIS and CEENQA for the respective institution as the Technical University of Civil Engineering. There is no doubt that this institution has been working for more than one century and has the best HE criteria for the Roman society and the whole world.

Working with my distinguished colleagues from other Romanian universities gave me an opportunity to acquaint myself very good with the situation in Romania, before and after its accession to the EU.

Within each point, my observations are clearly emphasized – they are based on my reading the Self-evaluation report of UTCB and other materials, stated in the mentioned document or available on the website of UTCB. Talks with the teaching staff, students, logistics staff, and other internal and external stakeholders gave me an insight in many other interesting data. In my opinion it is enough, in spite of a short visit (app. 3 days), to give some useful suggestions to the management and employees of UTCB in order to continue to work on further enhancement of state of their organization, what is a key activity within the quality system. I believe they will take them in a proper way – not as the criticisms but a genuine wish for improvement of UTCB.

Besides the obvious crisis, which affects not only the Romanian society, it is sure that UTCB has a bright future. A very dedicated and experienced staff and a long tradition are the guarantee it will be so. Young researchers should be clearly given the key roles, but also the responsibility for the strategic development until 2020, and beyond. Certain organizational changes are inevitable as the guarantees that the solid bases for scientific-research and innovative work as a teaching process will be further developed for the benefits of UTCB.

I wish the best of luck to the management, employees and students in all these processes and I cordially recommend the TECHNICAL UNIVERSITY OF CIVIL ENGINEERING OF BUCHAREST – UTCB to ARACIS Agency for full accreditation.

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