

Date of the site visit: March, 17^{th} 2014

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INTRODUCTION

The Expert Panel (hereinafter: Panel) appointed by the Agency for Science and Higher Education visited the Karlovac University of Applied Sciences (hereinafter KUAS) on March 17th 2014 with the objective to perform the process of reaccreditation of this institution. During this one-day visit, the Panel has conducted several interviews with the management, employees and students of KUAS, visited premises of KUAS and reviewed numerous documents (from Self-evaluation and Strategy of development of KUAS to different internal documents of KUAS) and the web site of KUAS (www.vuka.hr).

This report is based on all the above mentioned documents and on the notes and comments made by each Panel member, as well as on the visit to Karlovac University of Applied Sciences and interviews with different people during the visit.

Re-accreditation procedure performed by the Agency for Science and Higher Education (ASHE), a public body listed in EQAR (European Quality Assurance Register for Higher Education) and ENQA (European Association for Quality Assurance in Higher Education) full member, is obligatory once in five years for all higher education institutions working in the Republic of Croatia, in line with the Act on Quality Assurance in Higher Education.

The Expert Panel is appointed by the ASHE Accreditation Council, an independent expert body, to perform an independent peer-review-based evaluation of the institution and their study programs.

The report contains:

- a brief analysis of the institutional advantages and disadvantages,
- a list of good practices found at the institution,

- recommendations for institutional improvement and measures to be implemented in the following period (and checked within a follow-up procedure), and
- detailed analysis of the compliance to the Standards and Criteria for Re-Accreditation.

The members of the Expert Panel were:

The Expert Panel was comprised of five members:

- Haldor Jochim, PhD, Aachen University of Applied Sciences, Germany, professor
- Heike Raddatz, PhD, Trier University of Applied Sciences, Germany, professor
- Sunčica Oberman Peterka, PhD, J.J. Strossmayer University in Osijek, Faculty of Economics, professor
- Dražen Vrhovski, PhD University of Applied Sciences VERN, Wawa ltd., Croatia, college professor
- Cecilija Gečević, University of Applied Sciences "Marko Marulić" in Knin, student

In the analysis of the documentation, site visit and writing of the report the Panel was supported by the ASHE staff:

- Maja Šegvić, coordinator
- Nika Matjanovski, support to the coordinator
- Goran Briški, translator

During the visit to the Institution the Expert Panel held meetings with the representatives of the following groups:

- The Management;
- The Working Group that compiled the Self-Evaluation;
- Representatives of the Committee for Quality Assurance;
- The students, i.e., a self-selected set of students present at the interview;
- The Vice-Dean for Teaching, Vice-dean for professional and scientific work and Heads of Study programmes;

- Administrative staff;
- Teaching assistants;
- Teachers.

The Expert Panel also had a tour of the library, IT rooms, laboratories, student register desk, and the classrooms at the Karlovac University of Applied Sciences.

Upon completion of re-accreditation procedure, the Accreditation Council renders its opinion on the basis of the Re-accreditation Report, an Assessment of Quality of the higher education institution and the Report of Fulfilment of Quantitative Criteria which is acquired by the Agency's information system.

Once the Accreditation Council renders its opinion, the Agency issues an Accreditation Recommendation by which the Agency recommends to the Minister of Science, Education and Sports to:

- 1. **issue a confirmation** to the higher education institution, which confirms that the higher education institution meets the requirements for performing the higher education activities or parts of activities, in case the Accreditation Recommendation is positive,
- 2. **deny a license** for performing the higher education activities or parts of activities to the higher education institution, in case the Accreditation Recommendation is negative, or
- 3. **issue a letter of recommendation** for the period up to three (3) years in which period the higher education institution should remove its deficiencies. For the higher education institution the letter of recommendation may include the suspension of student enrolment for the defined period.

The Accreditation Recommendation also includes an Assessment of Quality of the higher education institution as well as recommendations for quality development

SHORT DESCRIPTION OF THE EVALUATED INSTITUTION

NAME OF HIGHER EDUCATION INSTITUTION: Karlovac University of Applied Science

ADDRESS: Trg J. J. Strossmayera 9

NAME OF THE HEAD OF HIGHER EDUCATION INSTITUTION: prof.dr.sc Branko Wasserbauer

ORGANISATIONAL STRUCTURE – Currently, KUAS has two sites on separate locations in which it organises its activity. Mechanical Engineering department and the library are located at the site at Ivana Mestrovica 10 and all other departments as well as dean's office and professional services (student office, IT service etc.) are located at another site (in two buildings) at J.J. Strossmayera 9 in Karlovac.

Karlovac University of Applied Sciences has six departments – Mechanical Engineering department, Textile department, Safety and protection department, Game keeping and environmental protection department, Food technology department and Business department. The work in each department is organized by the Head of the department. Each Department has Department Board that consists of teaching staff and student representatives of that department.

Administrative - legal, organizational, financial and other activities required for KUAS operation are performed at Dean's Office that consists of: Administrative secretary, Accounting and finance, Admissions office, IT service and Library.

Dean's Collegium is an informal body which is convened by the dean when needed and it consists of vice- dean for education, vice-dean for professional and scientific work and relations with economy and vice-dean for international cooperation.

Students are involved at all levels of management and in all activities of KUAS (three students representatives are included in the work of Professional Management Board and they also participate in the work of all councils which deal with students' rights – quality management, disciplinary commissions, awards etc.)

LIST OF STUDY PROGRAMMES:

Undergraduate level: Mechanical Engineering, Mechatronics, Textile Engineering, Safety and Protection, Game Keeping and Environmental Protection, Food Processing Technology and Hospitality

Graduate level: Mechanical Engineering, Business Administration, Safety and Protection

NUMBER OF STUDENTS: 1181 full-time students, 782 part-time students, 375 final-year absolvents

NUMBER OF TEACHERS: 46 full-time (4 of them are in cumulative employment), 89 external associates

NUMBER OF SCIENTISTS: 18 doctors of science, 46 elected to grades, 16 full-time and 2 in cumulative employment

TOTAL BUDGET (in kunas): 27.114.057,62

MSES FUNDING (percentage): 11.177.553,02

OWN FUNDING (percentage): 11.745.519,00

SHORT DESCRIPTION OF HIGHER EDUCATION INSTITUTION:

The Karlovac University of Applied Sciences was established on April 16th 1997, with two departments: Mechanical Engineering Department in Karlovac and Textile Department in Duga Resa.

Today, KUAS has the licences (from the Ministry of Science, Education and Sports of Republic of Croatia) to perform 7 study programmes (Mechanical Engineering, Mechatronics, Textile Engineering, Safety and Protection, Game Keeping and Environmental Protection, Food Processing Technology and Hospitality) at the undergraduate and 3 study programmes (Mechanical Engineering, Business Administration, Safety and Protection) at the graduate level. All the above mentioned programmes are operational, except the undergraduate programme in Textile. This programme did not enrol new students in the academic year 2013/14, because of the bad situation in the textile industry in the region and in the whole Croatia and impossibility for students to find a job after finishing the programme.

Premises of KUAS consist of three buildings that are located in two different locations in the city of Karlovac, which is quite inconvenient for KUAS's activities. One of the weak points of KUAS is the lack of a student restaurant and dormitory. Students can eat in a local restaurant that has signed an agreement with KUAS.

There are around 2,300 full and part-time students at KUAS, 46 teachers and 5 assistants. Since the number of employees is not sufficient to meet all the needs of conducting study programmes, KUAS engages 98 external associates, as external teachers, guest lecturers, assistants, etc.

CONCLUSIONS OF THE EXPERT PANEL

ADVANTAGES OF THE INSTITUTION

After visiting the site and studying all the available materials, the peers have concluded that Karlovac University of Applied Sciences (KUAS) has some very important strong points that could be the base for building the competitive advantage of this institution, but that there is also space for improvement. These are summed up below.

- 1. A well-functioning organizational structure that provides a good basis for quality teaching and research;
- 2. Small, but diverse institution that allows interdisciplinarity;
- 3. Competent and highly motivated staff;
- 4. Young team, enthusiastic and willing to work and learn;
- 5. State of the art equipment of some laboratories;
- 6. High motivation towards research;
- 7. Satisfied students.

DISADVANTAGES OF THE INSTITUTION

- 1. Lack of a sound vision and mission defined, communicated and understood among all employees and stakeholders (at least among the most important ones);
- 2. Student / teacher ratio, overloaded teachers, lack of assistants, too many external teachers;
- 3. Insufficient cooperation with international institutions;
- 4. Low mobility of students and teachers;
- 5. Deficiency in offering courses in English;
- 6. Lack of modern books in library and availability of learning materials on the web site of KUAS;
- 7. Research activities;
- 8. Low success rate of students.

FEATURES OF GOOD PRACTICE

- Some study programmes are organized very well and they have very good internal capacities, such as Food technology department with laboratory for cheese production, laboratory for beer production, Mechanical Engineering and Mechatronics Department with their laboratories with the latest equipment.
- 2. Some departments have good cooperation with industry through projects (Mechanical Engineering, Mechatronics)
- 3. Investment in education of young teachers all of them are enrolled at PhD programmes, scholarship of which are covered by KUAS

RECOMMENDATIONS FOR IMPROVEMENT

Based on the identified strengths and weaknesses of KUAS, it can be concluded that this is an institution that is working on building its identity and which makes certain efforts in defining its competitive advantage and is trying to work to improve it. Still, a certain number of things need to be done and /or improved. Some of them can be introduced quickly and for some of them, more time is needed.

- Vision and mission of the institution should be defined more clearly and it should be communicated and explained to all employees as well to stakeholders of KUAS. They all need to share the same opinion of what institution is and what it wants to achieve. The change process could start with this, since this is the base of all other activities. In line with this strategy, documents should be redefined and more focused. The variety of programmes could be perceived as a strength (in the sense of interdisciplinarity) but also as a weakness if there are too many and too diverse programmes. It is therefore recommended that KUAS finds a place in the market in which it could position itself as a regional centre of excellence (based on its competences).
- The mobility of staff and students should be more encouraged. A starting point could be introduction of courses in English for all students, not only for guest students from abroad (this will help in attracting them in the future). This is especially important for teachers who need to improve their teaching skills and learn and introduce new teaching methods besides ex-cathedra teaching, which is currently dominant.
- A staff development programme needs to be developed together with mechanisms and measures for ensuring its successful implementation.
- In order to enhance research activities at the institution, a Research Plan should be developed, as well as policies and monitoring mechanisms for implementation

of this plan, putting a particular emphasis on stimulating internationally recognized research and professional activity.

- The number of external associates should be decreased in order to lower the level of dependency on them, and it is recommended to employ more assistants. This will help in the process of decreasing the load of teachers with teaching activities and leave them more time for research activities, according to the research plan mentioned above. Due to the fact that KUAS is a university of applied sciences, engagement of external associates from the industry is important and it should be kept and stimulated in the future, but in a reasonable amount of hours.
- In order to ensure an effective and efficient learning environment for students and help them in the learning process, the library needs to be modernized, as well as the availability of teaching and learning materials on the KUAS's web site, or through an intranet system that should be developed. This is also very important for teachers and for increasing the quality of their teaching and research activity.
- Criteria for enrolment of students at KUAS should be more in line with the
 requirements of programs. This is important for having higher student success
 rate. Students without four year high school diploma should not be eligible
 candidate for studying at KUAS.

DETAILED ANALYSIS OF INSTITUTIONAL COMPLIANCE TO THE STANDARDS AND CRITERIA FOR RE-ACCREDITATION

1. Management of the higher education institution and quality assurance

Karlovac University of Applied Sciences (hereinafter KUAS) has developed a Strategic document (Development strategy of Karlovac University of Applied Sciences, hereinafter Strategy) that has all the necessary elements (mission and vision statements, SWOT analysis, strategic goals, operational plans, persons responsible for each goal and task, time frame for achieving them and resources required). Heads of each department of KUAS participated in the process of writing this document. The missing point in this process is involvement of the wider community (stakeholders) in defining the role of KUAS and its mission and vision (1.1.). Also, the mission statement is defined rather widely, without a clear focus on what this institution really is and what it wants to become, although vision is defined more clearly. It cannot be said that each study programme is in line with the mission statement of University (1.3.) and that all employees at KUAS are aware of the mission of institution – what it is and what it wants to achieve (which was evident from the interviews with employees of KUAS). The same thing can be said for stakeholders and their awareness of mission of KUAS. The peers can say that this institution has a well-functioning organizational structure which is fit for its purpose, provides a good basis for quality teaching and research, and is in line with all internal documents of KUAS (1.2.).

KUAS has a Quality Policy and internal quality assurance ordinances and they are aware of the need for constant work on quality issues and improvement of quality of all activities at KUAS. They have obtained the ISO standard in 2012 (HRN EN ISO 9001:2008), which helped them define the procedures of all activities at KUAS. They regularly collect data from students about the quality of study programmes, but the

peers have the impression that they do not act on this information on regular or systematic basis. The peers only found out that external associates with low grades will not get a new agreement in the next academic year. Some concrete activities regarding planning, controlling and improving quality are missing (lecturing processes, web site, etc.). (1.5.).

Each year, KUAS prepares a Report about its activities and achievements in the past year, and this Report is distributed to all the stakeholders in community. But, there is no feedback from the stakeholders, so KUAS does not have information on what they think about KUAS's performance, what changes they would recommend, etc. Some of KUAS's employees have informal contacts with the industry, so they have some feedback, but it is neither official nor regular (1.4.).

Since KUAS is listed in the list of research organizations in Croatia it has to be involved in research activities. (1.6.) KUAS invests time and money in the development of its research activities, but there is still a lot of space for improvement in this area. Some programmes have better results in research activity, while others need to invest much more effort in it. KUAS management is encouraging the faculty to write and present their papers at scientific and professional conferences (financially, by covering the cost of attending conferences), to publish their papers in scientific and professional journals and to write textbooks and publish them at KUAS. Some professors are very active in all these activities, but some still need to be pushed.

KUAS has a Code of Ethics that deals with all ethical and non-ethical behaviour, but the peers had the impression (according to conversations with them) that employees or students do not know what needs to be done and what the procedures in non-ethical cases are. It is something that needs to be better communicated among all employees and students (1.7.). All documents that are mentioned above can be found on the web site of KUAS (http://www.vuka.hr/index.php?id=katalog_informacija).

2. Study programmes

The peers have found that many aspects of the study programmes are in line with the requirements set. There are, however, some exceptions where the status was deemed to be in the "starting phase" or "partly implemented".

Above all, the KUAS does not provide full-circle quality control. Though students evaluate their teachers, they do not receive feedback about the results of their evaluations, neither from the management nor from the teachers themselves. It does not appear that even the management systematically monitors the development of teaching quality.

As to the study programmes, the peers acknowledge that some departments, particularly the mechanical department, try to align their needs to those of industry. On the other hand, some plans for new courses do not appear to rely on structured analysis, to follow a coherent strategy or to show realistic assessment of the resources available to the institution and its position in the market. For instance, the future of the textile-engineering programme is still unclear, with staff pending, but, on the other hand, new programmes and a new 'multidisciplinary centre' with a speciality in environmental-oriented subjects - whose integration into the existing programmes seems fuzzy - are planned. (2.1)

The peers could not find that a sufficient variety of up-to-date resources are given to the students for supplementing their independent learning. That is especially noticeable as to electronic means, but also as to non-ex-cathedra teaching methods such as presentations and independent laboratory work, the latter being confirmed by the students too. Teaching appears to rely mainly on conventional classroom teaching, supported by self-written manuals; other materials do not seem to be widely used. In part this may be because there is a lack of modern books in the library and no IT network. (2.8, 2.9)

The analysis of theses and exam papers has led the peers to the opinion that the quality of outcomes seems to vary among the programmes. Though the peers appreciate the difficulty to assess this point they find that more could be done to improve the quality

level in some areas, notably in the non-technical subjects. Learning should be shifted from recollecting facts learned by rote towards more independent analysis. (2.5) It seems to the peers that this aspect is also influenced by some laissez-faire attitude to enrolment. Some members of the institution complained about the intellectual abilities of their students, but the KUAS does not seem to have contemplated a change of enrolment policy in order to achieve improvements here. (2.3) Finally, the KUAS offers some support for the students interested in industry placement and other activities taking place outside the KUAS. However, the students do not seem entirely content on this point. The peers were told that practical work and industry placement jobs are not always supervised closely enough by the KUAS and that they also find too little opportunity for practical lessons at the KUAS itself. (2.10)

3. Students

During the visit to the KUAS and interviews with students of different years and concentrations, the peers came to the conclusion that students are, in general, satisfied with education they are getting at KUAS. Students stressed good communication with the majority of professors, but at the same time they complain that the majority of professors do not put teaching material or any material about the course on web site, and the web site of KUAS does not contain accurate information about requirements of courses.

The KUAS informs the public about study programs through its website. Criteria and procedures for enrolment are published publicly and are consistently applied, but they are not analysed according to their adequacy to student success. KUAS enrols students with four and three year high school diploma, with or without state graduation. Result of this is the gap in the degree of homogeneity and the sufficiency of the prior knowledge of students enrolled and law success rate of students.

The KUAS provides support to students in their extracurricular activities in which students are achieving great results, such as drama, carnival, sport activities etc.

The KUAS does not provide counselling and career guidance to students.

The ways and methods of assessment of knowledge are provided through various, but still traditional methods such as colloquia, seminars, exams... Students have a formal opportunity to appeal the assessment. Feedback received from teachers is an opportunity to improve knowledge, but it is the subjective decision of every teacher to give one. There are no formal regulations that would ensure continued feedback.

The KUAS does not keep statistics of employment of its graduates and does not maintain regular or formal contacts with former students. Information about former students depends on individual communication between teachers and former students.

Students have the ability to influence decision-making, they have their representatives in panels at the KUAS, there is a Student Union and they have Ombudsman, although some students were not aware that there is a Student Union at KUAS.

Students have the opportunity to express their opinions and suggestions for improvement through a mailbox for anonymous suggestions or complaints and through student surveys, but there is no regular feedback on it.

4. Teaching staff

KUAS currently employs 46 teachers, (42 are employed full-time), 5 assistants and 2 laboratory workers. At present, there are 10 college professors, 18 senior lecturers and 18 lecturers. The majority of employees at KUAS are quite young, which can be considered an advantage in the processes of adapting to new market conditions, changing and learning quickly. Based on our meetings with employees, the peers can say that majority of them seemed to be quite loyal to KUAS. There are 18 teachers with a PhD and 24 teachers and assistants who are currently on their PhD studies. In order to stimulate employees for further education and raise the level of teachers' quality, KUAS covers the cost of scholarships of PhD programmes. Some of the KUAS's employees did their specializations abroad.

The ratio between the number of full-time teaching staff and the number of students is unfavourable for KUAS. Each document that the peers have read contained different data on the number of students and different ways of calculating this ratio, but it was always more than 1:30, which is expected. Since 2 assistants are in the process of promotion to teacher positions, this ratio will be somewhat increased.

Since this number of employees is not sufficient to cover all lecturing needs, KUAS engages a lot of external associates (69 teachers and 29 external associates from other HEIs, scientific institutes and industry). Due to the nature of KUAS (it is a university of applied sciences), engagement of external associates from industry is important and it should be kept and stimulated in the future, but in a reasonable amount of hours.

Number of external associates should be decreased, but this problem cannot be solved by KUAS alone. Employment of new teaching staff (which helps in solving the problem) depends a lot on the Ministry's permissions and the KUAS management is constantly stressing this issue (4.1., 4.2. and 4.3.). Although there are a lot of external associates at KUAS, 66.6% of the total number of working hours of all study programmes is carried out by full-time employees (4.1.).

A lot of employees are overloaded with lectures, having no time (or enough time) for research activity. As it was mentioned above, KUAS supports staff development (financing their PhD, research and publishing activities), but does not have strategies for this (4.5.). This problem is also in line with the restriction for new employment. Sizes of teaching and seminar groups are:

- a lecture group is up to 110 students,
- a seminar group is up to 80 students
- laboratory, computer and other practical exercise groups are 10-20 students.

The size of groups could be decreased, but that is not possible without additional employment of teaching staff and additional space.

Advancement of teachers to academic titles is regulated by the legal framework and the Regulation on Appointment to Teaching Titles.

5. Scientific and Professional Activity

Karlovac University of Applied Sciences (KUAS) is in an early stage of having a formally adopted research agenda together with the corresponding action plans and performance evaluation mechanisms. It is therefore recommended that the KUAS develops, introduces and monitors the implementation of such plans, policies and monitoring mechanisms, putting a particular emphasis on stimulating internationally recognised research and professional activity.

Furthermore, the KUAS has not implemented effective mechanisms for stimulating the establishment of international and/or domestic professional and scientific projects and collaborations. Although the postgraduate study and the corresponding research undertaken by the academic staff could qualify for the research undertaken by the KUAS (in total 24 staff members are enrolled in postgraduate studying), it is still not clear how the research undertaken corresponds to the KUAS's strategic development plans and objectives. This is particularly important given that the decision on what professional development programme to undertake is rather arbitrary and down to the teacher him/herself. It is therefore recommended that the KUAS finds a niche in which it would position itself as a regional centre of excellence. This is seen as particularly important given that the feedback on the KUAS's future development that the panel has been introduced to by both the management and academics is somewhat vague and may hence be considered a wish list rather than a carefully thought off strategic plan. Given the above, upon setting up a focal research, professional and/or market niche, a list of staff development programmes, professional and research activities which best correspond to achieving this goal, together with the corresponding time framework, would need to be developed. Moreover, formal mechanisms and measures for ensuring successful implementation of the above must be put in practice. It is also highly recommended that the KUAS concentrate its plans for research and professional activities in an international rather than local context, taking into account its strongholds such as for instance the closeness of reputable technological enterprises such as ABB Croatia, Alstom, Karlovačka pivovara (member of the Heineken Group), KIM Karlovac (member of Lactalis Group) and others.

The KUAS also needs to take advantage of the state-of-the-art laboratories, set up largely through EU funding, both teaching-wise and research-wise. These facilities have made a significant contribution to both the quality of teaching as well as to KUAS's general reputation. Consequently, similar development projects aimed at setting up new such facilities will affirm this contribution even further. In this regard the KUAS needs to be congratulated for providing formal training for EU project funding to as many as 25 of its staff members.

Finally, even though the KUAS has adopted formal mechanisms for encouraging technology and knowledge transfer thorough cooperation with the real sector, the feedback from both senior and junior academic staff leave room for speculations that considerable improvements need to be made. It is therefore recommended that, in addition to the financial project support scheme that has been in place, the KUAS also makes considerable efforts to promote the mind-set of its staff. This may be achieved by holding corresponding entrepreneurial trainings, promoting best research practice examples, setting up innovation rewarding schemes etc.

6. Mobility and international collaboration

In general, the peers found that KUAS offers students from other higher education institutions good conditions for improving their mobility. (6.1)

In discussion with the management it became clear that the KUAS is very interested in the development and maintenance of existing international relationships and cooperation.

Since 2009 teachers from abroad have been invited to give lectures on a variety of special topics at the KUAS. Moreover, there are particularly good contacts with various Serbian institutions, and some teachers and students of the KUAS attended numerous international conferences in Croatia and the neighbouring countries.

But the conditions for attracting teachers from abroad to give full lectures in a study programme of the KUAS over the time of a full semester are only in starting phase; it has not been practised yet. Most international relations refer to institutions of neighbouring

countries and less to institutions of other European states, although some study programmes of the KUAS are based on various comparable studies of European universities.

The few foreign students of the KUAS usually also come from the directly neighbouring countries.

The opportunities offered by the ERASMUS programme have not been successfully implemented yet. Though students have the opportunity to complete a part of their study programme abroad, most of them have found the scholarships offered not attractive enough, or they have linguistic deficiencies. The motivation of the students to go abroad must be improved.

The same must be stated as to the criterion 6.3. Although staff and professors have a high teaching workload and high teaching motivation, the peers have found that the willingness to go abroad is still insufficient and should be improved.

Finally, the KUAS has good preconditions for expanding the existing international cooperation and very good opportunities to increase the international mobility of students, staff and teachers.

7. Resources: Administration, space, equipment and finances

The KUAS has only partly provided appropriate resources for all enrolled students to support their effective learning. The key areas with considerable room for improvements include the library resources, PC capacities, and the KUAS business information system (student intranet portal).

The existing library facilities can hardly be seen as appropriate both space-wise and content-wise. With regards to the latter, as purchasing hard copy titles is rather costly, it is recommended that the library resources are focused primarily on granting student access to a larger number of online databases. This is particularly important given that the library is dislocated from the main KUAS facilities, hence, by virtualising library resources, students would have the possibility to utilise these resources remotely and in a less time consuming manner.

It is also highly recommended that the KUAS invests considerable efforts in setting up a dedicated Business Information System (BIS). This would improve greatly both data exchange and information security. As such a system is likely to influence future scientific, academic and professional work of the KUAS, it is recommended that in planning the BIS extra care is given to its alignment with the KUAS's strategic development goals. Also, given the actual trends in IT system design, utilisation and management, it is recommended that in introducing the BIS in its business practice the KUAS focuses on cloud solutions rather than on building local infrastructure. The KUAS maintains a favourable ratio of teaching and non-teaching staff. Only minor objections have been communicated as to the number of facility management staff approved by the Ministry.

The KUAS lacks formal polices for non-teaching staff professional development. For its current stage of development such a practice seems sound, nevertheless in future, development procedures should be negotiated and formalised.

The KUAS mostly ensures that the laboratory equipment and usage protocols are aligned with the recognised international standards. However, it does not utilise fully the state-of-the-art vertical software and hardware in the teaching process. As a result, graduated students lack the corresponding practical expertise in dealing with most recent technological advancements (e.g. 3D scanner). It is indeed appreciated that such a situation is greatly influenced by the number of facilities available as well as by the equipment cost. Nevertheless it is recommended that special attention is given to workaround solutions providing students with the above practical experience by simulating real laboratory conditions (e.g. practical work with old 3D imagery, software simulations etc.). As purchasing the corresponding licensed software may well be costly, it is recommended that more emphasis is put on collaboration with the local multinational companies to sponsor low-cost thick client solutions as a part of their social responsibility business conduct. Alternatively, cloud solutions provided by local or global vendors may also be considered.

Finally, the KUAS's financial situation seems sound, nevertheless it lacks transparency. Thus for instance even though the number of part-time teaching staff got reduced, this had no influence on the corresponding costs outlined in the P&L statement. Although the

KUAS management provided trustworthy feedback that the KUAS should not suffer major financial problems in the future, certain concerns may be raised as to how a teachout plan would be carried out in case of diminished interest for some of the study programmes. As this has already happened in the past with the textile technology study programme, it is recommended that a formal teach-out plan is developed. The KUAS also does not seem to have stringent admission criteria (e.g. admitting students from 3-year vocational and trade schools) which may suggest financial backdrop of the process is more important than setting up and reaching certain educational standards and goals.