

**EUA (European University Association)
Institutional Evaluation Programme**

**SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA,
SLOVAK REPUBLIC**

EUA REVIEW REPORT

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FOREWORD

1. The concept of the EUA Institutional Evaluation Programme

Following two successful conferences on the theme of *quality and evaluation*, the Permanent Committee of the then CRE (Association of European Universities), which became EUA (European University Association) in 2001, decided in 1993 to offer its then 500 member universities the possibility to be reviewed so that their strengths and weaknesses in the area of quality management might be assessed.

Through this Programme, the EUA wishes to offer an external diagnosis provided by experienced university leaders and experts coming from different higher education systems in Europe. This diagnosis should explain the quality nodes and the main actors in the university's daily decision-making processes. It should be a tool for institutional leadership preparing for change. The EUA does not wish to provide the university with a blueprint for its development; rather the review process is a consultative one or, in Martin Trow's terminology, an "*external supportive review*"¹.

By reviewing institutions in different countries, the EUA hopes to disseminate examples of good practice, validate common concepts of strategic thinking, and elaborate shared references of quality that will help member universities to re-orient strategic development while strengthening a quality structure in Europe. The review aims at helping the universities derive the following benefits:

- An increased awareness, across the university, for the need to develop an internal quality culture.
- An increased capacity for setting and implementing strategic goals.
- An effective complement to national quality assurance procedures through the use of peers and an improvement-orientated approach.

The methodological instrument of the Programme focuses on the universities' capacity to change, including their strategic planning and internal quality monitoring, and examines if all the preconditions are assembled to make each and every institution more adaptable and responsive to the changing higher education environment at local, national, European and international level.

More specifically, the EUA institutional evaluation methodology is guided by four central strategic questions:

- What is the institution trying to do? This question refers to the mission of the institution. A clear mission is important in order to decide on priorities, strategic objectives and the means to reach these objectives.

¹ M. Trow: "Academic Reviews and the Culture of Excellence", Studies of Higher Education and Research, 1994/2.

- How is the institution trying to do it? The evaluation investigates the way in which the institution attempts to fulfil this mission in terms of organisation, governing structures and processes.
- How does the institution know it works? This question points at the necessity to have sound quality arrangements in place. The evaluation team looks at the institutional policies and practices regarding quality and other relevant processes in terms of actors, structures and procedures.
- How does the institution change in order to improve? This is a key question for EUA's institutional evaluations. It is the institution's capacity for change and improvement that allows it to deal with a fast-changing environment and to respond to evolving needs.

2. The history of the Institutional Evaluation Programme of EUA

In 1994 the Universities of Göteborg, Porto and Utrecht commissioned the then CRE to develop the methodology for the quality review programme and to test it in their institutions. This *pilot phase* of the International Institutional Quality Review was completed in January 1995. Central to the process is a set of *guidelines* developed by Professor Frans van Vught, then Director of the Centre for Higher Education Policy Studies (CHEPS) at Twente University, and Don Westerheijden, also of CHEPS. In 1995-96 a second *experimental* review round took place with the participation of ten universities located in western, central and Eastern Europe. The experiences of the first two years led to minor adaptations in the programme, and the 1996-97 round was the first one in the «*full-grown*» *CRE Institutional Evaluation Programme*, with 13 participating universities participating. The total number of universities that have participated in the Programme until now (academic year 2005-06 included) is **139**, six of which are located in four Latin American countries and one in South Africa. The remaining **132** universities are distributed among **33** European countries and **24** of them have already undergone follow-up evaluations as well.

3. System evaluation of Slovak higher education by EUA

Over the past few years, EUA has also begun to conduct sector-wide evaluations which can include an evaluation of all institutions within a specific field, region or national context. Each institution is first evaluated individually followed by an overall general evaluation. The major goal of the system evaluations is to identify the systemic conditions that would serve to increase the dynamic of change in institutions as well as the conditions that would strengthen the anchoring of their national system in Europe.

In this context, EUA has undertaken the system evaluation of Slovak higher education which has been commissioned to EUA by the Ministry of Education in the Slovak Republic, jointly with the Slovak Rectors' Conference. The evaluation of Slovak institutions is taking place in the wider context of:

- The Government's strategic objective of placing Slovakia in a favourable position in meeting the Lisbon objectives;
- The Government's interest in ensuring the successful implementation of the Bologna reforms;

- The Government's acknowledgement of the need to increase the transparency and the attractiveness of the sector for the public.

The intention of this evaluation is to support Slovak higher education institutions in their continuing development in order to meet best standards and practices that are adapted to their specific context. This exercise will include the evaluation of all Slovak institutions and a review of the research capacity at the national level. The national report will be based on the conclusions of the 23 institutional evaluations and on a system review of research capacity.

4. Institutional review of the Slovak University of Technology

In March 2006, the *Slovak University of Technology in Bratislava (STU)*, located in Bratislava, Slovakia, requested the EUA to organise an institutional quality review of the University. The request was made by the Rector of the University Prof. Ing. Vladimír Bálež DrSc. This evaluation has been undertaken by EUA in the framework of its Institutional Evaluation Programme, as part of the abovementioned system evaluation of Slovak higher education.

The Steering Committee of the EUA Institutional Evaluation Programme appointed, as members of the review team for the STU, the following:

- Virgilio Meira Soares, former Rector of University of Lisbon, Portugal, as chair;
- Hans Peter Jensen, Department Head at Natural Sciences at Roskilde University, former Rector of the Technical University of Denmark, Denmark;
- Mollie Temple, former Vice-Chancellor of the University of Bolton, United Kingdom;
- Dionyssi Kladis, Professor at the University of the Peloponnese, Greece, former Secretary for Higher Education in Greece, as secretary.

The preliminary visit and the main review visit to the STU took place in April and October 2006, respectively.

INTRODUCTION

5. The evaluation process

5.1 Outline of the two visits

In keeping with the framework of the EUA Institutional Evaluation Programme, the institutional review of the STU consisted of several phases. First, the review team received a 30-page *Self-Evaluation Report (SER)* with many informative appendices. The SER provides a good illustration of the current situation of the University and its development over the last few years. The SER was produced by a Self-Evaluation Steering Group (SESG) under the chairmanship of Prof. RNDr. Ján Kalužný, PhD, Vice-Rector for Education. The SESG coordinated the overall self-evaluation process as well.

Upon receiving the SER, the review team made a *preliminary visit* to the STU on 19-21 April 2006 to get acquainted with the University and to help clarify any issues arising from the SER. The *main visit* of the review team took place on 22-25 October 2006. During the two visits, the review team had the opportunity to discuss the situation of the University with many of its actors and with the main external partners, namely:

- With the leadership, with members of the staff and with students from all 6 Faculties of the University located in Bratislava (Civil Engineering, Mechanical Engineering, Electrical Engineering and Information Technology, Chemical and Food Technology, Architecture, Informatics and Information Technologies) and from the only Faculty located out of Bratislava (Faculty of Material Sciences and Technology, located in Trnava);
- With external partners, including representatives of political authorities and other stakeholders;
- With representatives of the Academic Senate, the Board of Trustees, the Scientific Board and the Industrial Board of the University;
- With student representatives in the Academic Senate of the University.

During the two visits, the review team had also intense and in depth discussions with the Rector Prof. Vladimír Bálež and the Rectorate of the University, as well as with the Self-Evaluation Steering Group. All those meetings and discussions were efficiently organised by Prof. Robert Špaček, Vice-Rector for Public and International Relations, who was the liaison person of the University with the review team.

The review team therefore had the opportunity to meet the broad spectrum of actors at the STU, both at the central level and at the level of the various Faculties. At the same time, the review team had the opportunity to discern the views of the external partners on the role of the University and their relations with it.

On the last day of the main review visit, the chairperson of the review team, Professor Virgilio Meira Soares, presented the team's *oral report* to an audience consisting of many of the actors who participated in the meetings with the review team. The oral report was the basis of the

present **Review Report**, which has resulted from all written information, interviews with various STU members and external partners and the review team's observations during the two visits.

5.2 Outline of the review

The review team wishes to express its sincere thanks to the Rector Prof. Vladimír Bálež and to the Vice-Rector Prof. Robert Špaček for the efficient preparation and organisation of the two visits which provided the review team with effective working conditions in which to fulfil its duties. The help that the review team received, in terms of both the exhaustive and clear information and the precise organisation of all meetings and interviews, was invaluable. The review team is also very grateful for the generous hospitality of the STU. It was indeed a pleasure to work in the friendly atmosphere extended by all the people involved.

During the meetings, the review team had the opportunity to interview many leading members of the University, professors, researchers, members of the administrative staff and students. They were all very open and actively participated in lively discussions with the review team, presenting their views about the quality management structures and ethos within the STU, the mission and the vision of the University and its dynamics for change and improvement, its current situation (including constraints and opportunities) and its future prospects.

As mentioned already, the self-evaluation process was steered by the Self-Evaluation Steering Group under the chairmanship of Vice-Rector Prof. Ján Kalužný and was co-ordinated by Vice-Rector Prof. Robert Špaček. As mentioned in the SER and as was explained by the Self-Evaluation Steering Group, the preparation of the SER resulted from a process which was widely diffused and publicised within the University.

The review team had the opportunity to verify the degree of involvement, at least of awareness, at the Faculties that it visited. However, it should be mentioned as a weakness of the self-evaluation process that there was not significant feedback from the Academic Senates of the Faculties regarding the SER. Another weakness of the process was the apparent weak involvement and awareness of the students. As explained by the SESG, the students were informed but there was no feedback from them.

Furthermore, the review team appreciated the work done in the SER and considered it as informative, adequately documented and a more or less complete report. However, the review team asked for additional information at the end of the first (preliminary) visit, concerning mainly clarifications of issues related to the internal allocation of resources, to non-academic personnel, to non-state funding and to the update of the long term plan. The University provided the requested additional information in the agreed time.

The Review Team considered the SER as a very honest and critical analysis of the situation, presenting at the same time the vision and the expectations of the university for the future. The quality of the SWOT analysis was perhaps the most serious weakness of the SER.

5.3 Outline of the Review Report

The EUA Institutional Evaluation Programme is not concerned with the assessment of the quality of teaching and research activities; rather, it is concerned with the assessment and the improvement of the existing mechanisms and processes for strategic management and quality assurance and, in that context, with the assessment and the improvement of the capacity of the universities to adapt to the rapidly developing higher education environment in Europe and in the world.

In this context, the review team's task is to scrutinise the mechanisms existing in the University for quality assurance and its capacities for strategic change. This Review Report, therefore, emphasises the current strengths and weaknesses regarding the capacity for change and expresses a number of recommendations that may be taken into account in the future development of the STU. Of course, this Review Report should be read in conjunction with the SER of the STU and with the corresponding additional information that were provided to the review team. Furthermore, the comments are based on two intense but rather short visits; One two-day preliminary visit and one three-day main review visit. The review team also collected a significant amount of information on the Slovak higher education system, but it is not possible for the analysis to go into all such details. The comments and recommendations, therefore, will be confined mostly to major issues of concern to the structures and procedures within the University. The recommendations, together with the corresponding reasoning and analysis, appear underlined in the text of the Review Report. A summary of recommendations is presented on page 31.

6. The national and institutional context

6.1 Higher Education in Slovakia²

Higher education in Slovakia is regulated by the Act No. 131/2002 which was approved by the National Council of the Slovak Republic on 21 February 2002 and came into force on 1 April 2002. This Act deals with all issues related to the Bologna principles and enables their implementation. Several amendments to this Act have taken place so far, while a new amendment is being prepared at present dealing with joint programmes and joint degrees as well as with the position of Slovak higher education as part of the European Research Area.

Higher education in Slovakia includes a) public higher education institutions, b) state higher education institutions, and c) private higher education institutions. Public higher education institutions (HEIs) are under the responsibility of Ministry of Education and are funded from the state budget up to 90% in average (in block grants), the rest being covered by their own resources. State HEIs are the military HEIs (under the responsibility of Ministry of Defence), the police HEIs (under the responsibility of Ministry of the Interior) and the medical HEIs (under the responsibility of Ministry of Health). State HEIs are funded exclusively from the state budget. Private HEIs are funded from private resources (particularly from tuition fees charged to their students), however private HEIs can also be provided with state subsidies for the implementation of accredited study programmes, for research and for their development. At present, the Ministry of Education provides private HEIs a subsidy for social welfare of students and for social scholarships to students.

In December 2006, there were 33 HEIs in Slovakia, of which 20 were public HEIs, 3 were state HEIs and 10 were private HEIs. In public HEIs in the academic year 2005-06, there were 169.506 students studying at the first and second cycles (out of which 113.197 full-time and 56.309 part-time) and 10.321 students studying in third cycle of studies (3.230 full-time and 7.091 part-time). In private HEIs in the academic year 2005-06, there were 8.208 students studying at the first and second cycles (out of which 1.367 full-time and 6.851 part-time) and 87 students studying in third cycle of studies (all part-time). The above analysis shows that the share of private HEIs in the student population in Slovakia is negligible. Indeed, although the number of private HEIs is half the number of public HEIs, the number of students in private HEIs amounts to only 4,6% of the student population of public HEIs.

Another interesting statistical figure is the one related to the number of new entrants in Slovak HEIs (regarding only public and private HEIs), which increases continuously since the academic year 2003-04. Indeed, this number was 42.381 in 2003-04, 53.335 in 2004-05, and 60.159 in 2005-06. In academic year 2006-07, the total student population in public and private HEIs is expected to exceed the limit of 200.000, compared to the number of 188.000 in the academic year 2005-06. This means that the supply of higher education will virtually

² The basic information in this section derives from the National Bologna Report of Slovak Republic for the period 2006-2007, which was submitted by the Slovak Ministry of Education to the Bologna Follow-Up Group on December 2006.

balance the demand for higher education in Slovakia and that *numerus clausus* will practically be removed except of the most attractive fields of study, such as medicine, law and architecture.

HEIs in Slovakia are classified by nature and scope of their activities to two sectors as follows:

- a) University sector, including institutions which provide education in all three cycles of studies, with a significant portion of study programmes of the second and third cycle.
- b) Non-university sector, including institutions which provide education mostly in first cycle of studies.

The term “university” is used only by HEIs of the university sector, while the HEIs of the non-university sector use the term “professional HEIs”.

Studies in Slovak HEIs are conducted in the context of “study programmes” in any of the three cycles of studies. A “study programme” may be carried out in a “field of study” or in a combination of “fields of study”. The “field of study” is a field of knowledge, which may be a subject of higher education in one of the three cycles of studies. The list of fields of studies in which Slovak HEIs may provide higher education is issued by the Ministry of Education.

Apart from the governmental authorities that are responsible for HEIs in Slovakia, there are four more significant bodies playing, at national level, an important role in shaping the higher education policy. The **Accreditation Commission** is established by the Slovak Government as its advisory body, with the tasks of monitoring, assessing and independently evaluating the quality of the overall activities of HEIs and promoting their enhancement. In this context, the most important tasks of the Accreditation Commission are to make proposals on the establishment, merger, split etc. of (public or state) HEIs and Faculties, to make proposals for change in the list of the fields of study, and to give opinions on the capacity of HEIs to implement study programmes with the right to award the corresponding degrees and on their capacity to conduct the habilitation procedure and the procedure for nomination of “professors”. The other bodies involved in development of higher education policy are the authorities of higher education institutions representatives: the **Higher Education Council**, as a supreme body of self-governance of HEIs, consisting of representatives of HEIs and Faculties elected by the corresponding Academic Senates; the **Student Higher Education Council**, as a supreme body of university students’ representatives, which represents students’ interests outwardly and which is a member of ESIB (the umbrella organisation of National Unions of students in Europe); the **Slovak Rectors’ Conference**, as an authority composed of the Rectors of HEIs, which coordinates and supports the activity of the Rectors with the aim of shaping the higher education policy.

6.2 The profile of the Slovak University of Technology

The Slovak University of Technology in Bratislava was established as the first polytechnic in Slovakia in 1937 under its original name “Technical University of M. R. Štefánik” with its seat in Košice. The University was moved to Bratislava in 1939 and its name changed to “Slovak Technical University”. In the year 1991, the University was renamed to its current name, “Slovak University of Technology”.

The STU comprises seven (7) Faculties. Six (6) of them (Civil Engineering, Mechanical Engineering, Electrical Engineering and Information Technology, Chemical and Food Technology, Architecture, Informatics and Information Technologies) are located in two different places within the town of Bratislava, and the seventh faculty (Faculty of Material Sciences and Technology) is located in Trnava, a 50kms' distance from Bratislava.

The basic statistical data regarding student population in the seven Faculties of the STU for the academic year 2004-05 are illustrated in the following table:

Faculties	1st cycle		2nd cycle		3rd cycle		Total	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Civil Engineering	2312	193	989		113	180	3414	373
Mechanical Engineering	1172		579		59	98	1810	98
Electrical Engineering and Information Technology	1956		629		97	234	2682	234
Chemical and Food Technology	866	187	406		139	93	1411	280
Architecture	924		266		46	119	1236	119
Material Sciences and Technology (Trnava)	2014	1746	789	190	62	201	2865	2137
Informatics and Information Technologies	697		174		19	31	890	31
Total	9941	2126	3832	190	535	956	14308	3272

The STU offers study programmes in all three cycles of studies. First cycle programmes last three or four years (depending on the Faculty) and offer a bachelor degree; Second cycle programmes last two years and offer an engineer degree (equivalent to master degree); Third cycle programmes last at least three years and offer a PhD degree. Studies may be either full-time or part-time. In total, students can choose from more than 200 study programmes in all three cycles within 74 study courses.

Apart from the STU, there are two more Technical Universities in Slovakia: the Technical University in Zvolen and the Technical University of Košice. However, STU is the only comprehensive University of Technology in Slovakia (with its 7 Faculties having all concrete technological content). The Technical University in Zvolen comprises 4 Faculties (among which is only one with concrete technological content), while the Technical University of Košice comprises 8 Faculties (among which 2 have no technological content – Faculty of Arts and Faculty of Economics). On the other hand, technological Faculties exist also in other Slovak Universities. 4 of them are in the University of Žilina (with 7 Faculties in total), 3 of them are in the Alexander Dubček University in Trenčín (with 4 Faculties in total), and one in the Slovak University of Agriculture (with 6 Faculties in total). From the above analysis, it appears that in total there are 22 Faculties with concrete technological content within Slovakia, which are distributed in 6 Universities. At the same time, it is easily understood from this analysis why STU is indeed the leader of technical universities in Slovakia.

MAIN FINDINGS OF THE REVIEW

7. Relevance between visions and structures of the STU

7.1 Introduction

According to the SER, the vision of STU is:

- To be a research oriented university and to achieve the status of “Research University” in the system of higher education in Slovakia.
- To be the leader among technical universities in Slovakia.
- To be a significant and reliable partner for society.

According to the Slovak Law on Higher Education, the status of “research university” is awarded to those HEIs of the university sector that achieve outstanding results in the field of science and technology as well as in implementing the study programmes of the third cycle. Therefore, the term “research university” does not mean a university focusing on research rather than balancing between research and education. However, it may come that not all Slovak universities achieve this status and this means that the status of “research university” is a real distinction for a university. On the other hand, as it was clarified in many of our meetings, “to be a research oriented university” means for the people of STU to conduct education through research.

Given the above clarifications, it is clear that the STU has an ambitious vision. The review team had in many cases the opportunity to verify that the University is making significant steps to realise its vision in all its three components. However, the review team believes that the STU has to improve the internal (institutional) conditions which actually affect the speed and the depth of the realisation of such a vision.

The comment of the review team is that realisation of this vision requires primarily:

- Appropriate conditions for efficient strategic planning (e.g. strategic choices and prioritisation of goals);
- Institutional attitude and approaches throughout the University;
- Efficient and effective governance;
- Development of a quality culture.

This requires appropriate structures and processes. The review team considers the existing structures and processes of STU as a weakness in its efforts to realise its vision.

7.2 Independence (or autonomy) of Faculties

The first weakness is the independence (or autonomy) of Faculties and the lack of an institutional perspective in the University. This situation does not allow for efficient and effective strategic planning at the level of the university. Moreover, there is a lack of efficient and effective governance and leadership. The STU looks more like a federation of Faculties than like an autonomous institution with its own vision and strategy.

This situation is evident, for example, in the Academic Senate of the University, where the Faculties are represented in a federal approach and have difficulty in adopting a corporate view and a corporate challenge. In other cases, we can speak about real isolation of the Faculties. A typical example is the phenomenon of “zero mobility” of academic staff among Faculties; in other words, the fact that the academic staff of a Faculty does not offer services in other Faculties because they have their own staff in the same disciplines. This results in the duplication of staff and finally in the duplication (or even multiplication) of educational activities. The real situation is that there is no room left for coordination of related or overlapping activities among the Faculties. The attitude of isolation is maintained by the lack of a community spirit, the lack of a cooperative attitude and the lack of an institutional perspective encouraging joint action. The waste of human and financial resources is the inevitable consequence.

7.3 Issues concerning governance

The second weakness is the lack of coherence in the governance structure of the University, with a large number of collective bodies at institutional level, either with decisive or with advisory roles, namely:

- Academic Senate
- Board of Trustees
- Scientific Board
- Industrial Board
- Rector’s Advisory Board

This structure is further complemented (and complicated) with a number of executive committees at institutional level.

Of course, this structure derives from the existing legislation, which stipulates the respective responsibilities and tasks. However, the review team is not sure whether there is a clear distinction of responsibilities and division of tasks or whether there is overlapping. This structure is too complex and becomes even more complicated if it is taken into account that the leadership of the university (both at institutional and Faculty level) is incompatible with membership in the collective bodies. Indeed, according to the Law, the Rector, the Vice-Rectors, the Deans and the Vice-Deans cannot be members of the Academic Senate and the Board of Trustees, and these two bodies elect their own chairs.

The above structure seems to be quite reasonable, given the power of the Faculties deriving from their autonomy. On the other hand, an institution where the real power lies with the Faculties is at the end an institution without power, is an institution which cannot have - or cannot realize - a vision. The Academic Senate is supposed to be the supreme collective governance and decision-making body in the University. However, the review team found no trace of the Academic Senate in all its discussions at all levels, and that the representatives of the Academic Senate have no idea of their real role and power. The overall impression of the review team is that the whole structure is typified by a lack of proactive leadership and a compliance culture. Under these circumstances, the review team cannot understand how the STU is to realize its institutional vision with such a weak institutional culture.

7.4 Issues concerning administration

The third weakness is the management structure of the University which the review team considers unclear and which is obscured by the fact that each Faculty has its own management and administrative structure. It can be said that there is not any real central administration structure in the STU. It is interesting to note that, according to the data illustrated in the SER, central administration of the University owns 60 workplaces, while the average number of workplaces of Faculty administration is as well 60 workplaces per Faculty. This administration weakness has a negative impact on the governance and the leadership of the STU, which are left without substantial support. The review team wants to stress that creating a central administration around the Rector and the Bursar is very essential in the turn-around which is going to be so necessary at the STU. Similarly, the review team considers a weakness the lack of a secretariat to support the work of the university boards and the lack of appropriate administration to ensure that university management has access to relevant data with respect to finance, student management, estate and facilities etc.

7.5 Issues concerning leadership

The fourth weakness, resulting from the first aforementioned three, is that the existing structures (autonomous and almost independent Faculties, governance structure, management structure) do not transparently support the Rector. STU is an example of the model of “powerless rector”. However, the review team stresses that this model is not common in Europe. The Rector should be the person who leads the vision of the university. The University needs real leadership and management in order to realise its vision and to achieve its goals, and it is the Rector that should have this authority. The present governance system does not make that task easy or even possible despite any efforts the Rector may make.

7.6 Recommendations regarding structures

Given the unity and the interconnection of the above issues, the review team presents all its recommendations on them in the present separate section.

a) The review team realises that the structures in the STU are determined by the existing Slovak Law for Higher Education. Therefore, the first recommendation of the review team should be addressed to the Government, which should reconsider the overall structure of the Slovak HEIs, especially with regards to enhancing an institutional approach. Lack of institutional-based structures and weak central governance do not allow the HEIs to operate on the basis of strategic plans, to develop the appropriate quality culture and to apply efficient and effective management practices.

b) Regarding the University itself, the review team believes that the STU should try to make best use of the already existing structures and to implement the existing laws in a more efficient way. For example, the review team does not see any serious reason for the existence of six members from each Faculty in the Academic Senate. If this number is reduced to three, then the Senate would become a less crowded and more efficient body.

c) Regarding governance, the review team believes that strong leadership is a *sine qua non* for the efficient functioning and for the development of the University on the basis of a shared vision. Even in the context of the existing legislation, the University should reconsider its overall structures and establish its own parallel structures (including strong central administration) aiming at a real and powerful central governance and leadership. The Rector should have the power, on the one hand to lead the University to its future and on the other hand to run the University in its day-to-day functioning. For example, the Rector should have a strong influence in the allocation and management of funding inside the University. This power of the Rector should be recognised and be accepted by all factors at all levels.

d) The above parallel structures should ensure, among other things, the efficient coordination of Faculties, and should also meet the need for effective two-way communication and information exchange between central governance and Faculties. The existing regular meetings with Vice-Deans, which are convened and managed by respective Vice-Rectors, may prove to be a solution under the condition that they do not add weight in the existing multiple processes at central level.

OTHER IMPORTANT FINDINGS OF THE REVIEW

8. STU and its social and economic environment

The links between STU and society/economy are primarily enhanced through the Board of Trustees, who control at the same time the budget, development and long-term or annual plans. The Board of Trustees actually plays a specific role in strategy issues. The Industrial Board of the STU plays also an important, but advisory, role in similar matters. The review team had the opportunity to realize, during both visits, that the issue of the relevance of the University's activities with the social and economic environment is high on the agenda of the STU, both in terms of the employment of graduates and in terms of its cooperation with Slovak industry.

As we were told, unemployment of STU graduates is only 4%, i.e. three times lower than the average of the other Technical Faculties in Slovakia, and the STU is to be commended for that. This degree to which its graduates fulfil the needs of the economy is the proof that STU plays an important role in the Slovak economy, enabled by all of the STU Faculties.

The relationship between STU and Slovak industry is (or should be) a two-way one; STU provides graduates to the industry and industry provides equipment and other facilities to STU and funds its relevant activities. As we were told in our meetings with external partners, industry aims also to help the STU in establishing a wider research environment. And, at the same time, people from industry expect also to act as specialised teaching staff in the University. However, in our discussion with the Minister of Economics, we were not assured that there is a clear research and development strategy that is agreed between the Government and the Slovak universities. Actually, we were told that this will take place in the context of the new Law for Innovation aiming at combining public with private initiatives.

Further on, we had clear evidence that the University engages in dialogue with employers, industrial representatives and governmental departments. For example, we were told that people of STU play an important role in the preparation of the national long-term plan for development. And this is another proof of the high esteem that STU enjoys throughout the Slovak society and economy.

However, the review team has been left with a number of questions, which were primarily related to the fact that the future of the STU is in general connected to the future of the Slovak industry. It is evident that nowadays the Slovak industry is driven mainly by the automobile industry. Employment opportunities for graduates and applied research opportunities for STU are in connection to the development of this industry. However, the automobile industry does not seem to be a long-term investment in Slovakia. Two questions arise in this point: Does industry currently help the University to establish a research environment? What is the sustainability of the overall situation? We were told about inadequate resources both for research and for technical studies in Slovakia. Does it result from the overall economic situation of the country or from the lack of public or political interest? And how does industry

help the STU to overcome this lack of resources? We raised these questions in our meetings both with main actors of the STU and with external partners and we were informed, for example, that the Government prepares a Law on Investment Stimulus in order to get prepared for the period after the automobile investment. But the main question here is how to improve investments bringing a “brain added value” to Slovakia.

In that context, the review team wants to support the efforts of the STU to maintain and further improve its close links with Slovak economy and industry, but, at the same time, recommends that the University should elaborate a long-term strategy towards the sustainability of these links and their consequences. Furthermore, the review team recommends that the STU should, in parallel, improve its more general links with society at large. It is understandable that the priorities for a technical university lie with economy and industry, but the links with the society at large should not be ignored. To that end, the STU should utilise the possibilities offered by the functioning of the Board of Trustees and it should also further improve the social component of the Institute for Lifelong Education.

9. Issues concerning students and studies

Studies

The review team recognises the efforts developed lately in the STU to improve the curricula of the study programmes in several Faculties. In spite of this, we were disappointed by the high drop-out rates in the first years of studies and prolongation of the typical length of studies. These crucial issues were at the centre of many of our discussions both at institutional and at Faculty level.

The drop-out phenomenon appears mainly with the first year students and should in general be attributed to the access/admission system. We were told that drop-out equals 50%-60% in general in technical faculties in Slovakia. The problem originates from secondary education. Many secondary graduates have no real interest to study engineering, but they enrol in order to acquire the status of student or (in the case of the STU) simply in order to stay studying in Bratislava. On the other hand, Faculties want to have as many students as possible because of funding reasons. Drop-out does not affect funding of Faculties, which is based on number of students enrolled initially. It is interesting to note that first year drop-out is significantly lower (6%-7%) in Faculties for which the entrance examinations are tough (e.g. Architecture). However, in some cases, high drop-out rates can be observed in higher years of study, and in these cases it is rather related to tough progress exams from year to year.

The review team heard two more theories about the drop-out phenomenon. The first one is connected with the large number of introductory theoretical courses in the first year of studies, which do not match with the expectations of young students regarding technology and engineering studies. The second one is connected with the existing gap between the knowledge level of the secondary graduates and the requirements for university studies, which makes it difficult for the first year students to meet the requirements of their studies.

The review team considers the whole problem as really complex. Its recommendation is that

the STU should establish an effective policy to combat drop-out. The first step in this policy should be a survey to define the real characteristics of the problem and to analyse the reasons. The second step should be the development of effective didactic support during the first year to narrow the gap with secondary level and to establish systematic academic and career counselling processes. “Effective didactic support” does not mean adapting the curricula in order to meet with the competences of the secondary graduates, as it was mentioned in some of our meetings. As for the issue of the large number of introductory theoretical courses in the first year of studies, the STU has to deal with it in a more effective way in the context of the curricula restructuring. Combating drop-out is one of the areas where the STU should establish a policy at institutional level. This is not an issue where each Faculty should establish its own policy.

One important issue related to the studies in the STU is the large number of study courses which results in the teaching overload of teaching staff. As was explained earlier, this is a phenomenon that derives from the autonomy and the fragmentation of Faculties which results to the duplication (and in many cases to the multiplication) of courses in related or similar subjects. Teaching overload obviously minimises the possibility and availability of teaching staff for research. The review team has already expressed its reserves against the model of autonomous Faculties that exists in Slovakia. In this context, the recommendation of the review team is that the Faculties should at least cooperate under the coordination of the central leadership in order to remove all cases of duplicated courses.

Students

The review team had the opportunity to realise that, in general, the students of the STU seem to be happy with their University and their Faculties. Their satisfaction is further increased by the fact that they do not face unemployment problems after their graduation. As we were told, many students are working in parallel in order to support their studies, although the new Government has removed tuition fees. Social policy for students seems to be satisfactory at the STU. One characteristic issue to be mentioned here is that accommodation in the dormitories is available for 6000 students (out of a total of 18000, which means about 30%) with computer and internet facilities in all rooms. What students seem to seek is the change in attitudes regarding the “generation gap”. For example, they ask for more open and less formal dialogue with their teachers, and this is something that the review team could recommend, although it has to do with personal attitudes, mentalities and behaviours. We refer here two characteristic phrases that we heard in our discussions with students, which express their perspectives for cultural and professional environment in which they are going to live: “Things are changing in Slovakia, but people do not” and “We are young, but our employers are old”.

The review team notes with satisfaction that the students have a significant role within the institutional and faculties’ governance. Furthermore, the review team notes that the central student delegation was actually the only collective body in STU behaving in our meetings with an institutional attitude and their organization (the Student Parliament) in the STU is to be commended for this attitude. What the review team would like to recommend here is that both the university leadership at all levels and the Student Parliament should encourage increased activity and student participation in university governance at all levels. In a similar manner, the

review team recommends that the involvement of students in the procedures of assessment of courses and teaching should become more active too, as will be analysed later.

10. Implementing Bologna

One serious problem that the STU faces regarding the implementation of Bologna reforms is the significance of the bachelor degree (first cycle). 85%-90% of bachelor graduates continue to master, while only 10% of master (engineering) graduates continue to doctorate. It has to be noted that access between first and second cycles is automatic in the relevant area, with the exception of Architecture. Vertical mobility between first and second cycles (i.e. access between irrelevant areas) is also possible but only after some kind of exams. The above situation shows the importance of the master (engineering) degree, since it is the one offering the professional qualification of the “engineer”. On the other hand, it shows that bachelor is not accepted by the Slovak industry (and the Slovak society in general) yet.

The review team had the opportunity to discuss this issue in many of its meetings. But, at the end, it was not clear for the review team whether this situation results from the lack of information or from the lack of relevance of bachelor curricula to employment needs and opportunities. In some of our meetings with students, we heard the expression “Bachelor means nothing for industry”, while in our meeting with the Industrial Board of the University we heard a similar expression “For industry, bachelor is like a fast-food. Industry needs a complete (full) engineer with master degree. However, for some industries (e.g. automobile), bachelor may be enough”.

The review team has the impression that (with the exception of Architecture), bachelor and master (engineering) courses are now structured as a continuum. Bachelor seems as if it has no autonomy as a separate degree and it looks like the first stage of master courses. At the same time, bachelor seems also to act as a preliminary or introductory university stage for the secondary graduates aiming at coping with their competences. This can explain on the one hand the low perception of bachelor in industry and society and on the other hand the large number of theoretical courses in the first years of studies. The review team recommends at this point that the University and the Faculties should reconsider, in parallel, the curricula of both bachelor and master (engineering) studies, dealing with each one of them as a separate and autonomous study programme and stressing the relevance to employment for both cycles, as well as the relevance between the two levels.

The review team had the opportunity to discuss, in many of its meetings (both at institutional and Faculty levels), the degree of developing Bologna reforms, ECTS, Diploma Supplement and the new educational paradigm in higher education. The review team has not developed a clear impression of the “genuineness” of the implementation of the above reforms. For example, we were informed that a credit system compatible to ECTS has been employed at the STU for many years. However, the review team could not verify whether this credit system is based indeed on student workload and, if so, whether the student workload is estimated in a genuine way or if it results from a simple transformation of contact hours to student workload. Furthermore, it is not clear for the review team whether the Diploma Supplement delivered to the graduates is implemented on the basis of “competences” and “learning outcomes”. And,

finally, it is not clear for the review team whether the educational philosophy in the STU has adopted the new educational paradigm, shifting from a “teaching oriented” to a “learning oriented” educational approach. In any case, the review team recommends that the STU should increase its efforts to genuinely implement the above reforms and principles, which, of course, should be combined with the restructuring of curricula.

One more thing to be added here is that the genuine implementation of Bologna reforms, especially with regards to studies, has to be centrally organised, facilitated, driven and coordinated, but, above all, it has to be inspired at institutional level. It must be the university leadership that should guarantee the success of this effort and this need should not be jeopardized by the autonomy of the Faculties. This is something that the review team strongly recommends to the University.

11. Issues concerning internationalisation

The review team had the opportunity to realise that STU is in the top of Slovak Universities regarding internationalisation. However, its performance is still lower than other European universities. This means, first of all, that Slovak HEIs in general have to be put in a global context in order to improve their policy on internationalisation. Additionally, the review team wonders if the STU is not adopting too narrow a perspective in not considering the needs and opportunities in surrounding regions (countries).

Taking into account the obstacles to internationalisation which appeared during our discussions, the review team recommends the following concrete measures for the STU to improve its internationalisation capacity:

- Implementation of an efficient central mechanism to coordinate and drive the internationalisation process, combating bureaucracy;
- Widespread dissemination of information;
- The overcoming of problems regarding English language;
- Improved “social” conditions for incoming international students and staff.

12. Issues concerning financing

All people in the STU consider funding to be inadequate. They were complaining about the inadequate and obsolete equipment, claiming that no investments to technical equipment had been made during the last 15 years. This means that the challenge for the coming years for STU will be to improve its infrastructure (including both premises and equipment). This seems to be the current financial reality for the STU.

However, the review team believes that, even under conditions of shortages and inadequate funding, need for rationalisation of financial management is always required. Substantial part of the financial management is of course the allocation of the available resources inside the university according to predefined criteria, according to institutional prioritisation and in conditions of transparency. However, the impression of the review team is that there is no room left inside the STU for an effective, justified and documented policy to be established regarding internal allocation and management of funding. One reason is that allocation of

funding to the Faculties follows the criteria and the algorithms used by the Ministry of Education in order to allocate state funding to the Slovak universities. This means that the allocation criteria are predefined outside the University and this does not leave room for initiatives and prioritisation inside STU (this demonstrates, once again, the lack of pro-activity and institutional responsibility of the Academic Senate). The second reason is the lack of an institutional attitude in the STU, which does not allow the Rector of the University to affect the allocation and management of funding. The third reason is that there is not any central administrative mechanism in the STU to support such a central functioning (especially regarding justification and documentation). The review team considers those three reasons as significant weaknesses of the STU, acting as real obstacles to its development. In that context, the review team strongly recommends that the STU establish appropriate procedures at institutional level under the responsibility of the Rector, in order to rationalise financial management and in order to set priorities and develop appropriate initiatives.

13. Issues concerning human resources

The review team has identified two problems regarding human resources in the STU. The first one has to do with ageing of academic staff. As it was mentioned in our discussions, the retirement of the older academics is the only existing way for lowering the age average of the academic staff, hindering renewal. Moreover, these retirements are counterbalanced by the parallel tendency of younger academic staff to leave the University, as they can find better employment opportunities outside. Therefore, the real problem has to do with recruitment and retention of younger academic staff. Since there is not any lack of available positions, the solution to the problem requires an effective policy of incentives for younger academic staff. The establishment of such a motivation policy is strongly recommended by the review team. Higher starting salaries for younger academics should be a key element of this policy, accompanied by better conditions inside the University. Teaching overload of academic staff seems to be an issue of concern for them, as it minimises the possibility and availability for research. In practice, this means that teaching overload does not leave room for them in order to fulfil the criteria required for promotion, which are mainly based on scientific work. It is for this reason that the promotion procedures for academic staff are not considered as fair. Since the main reason for teaching overload is the duplication and multiplication of courses because of the autonomy of Faculties, the review team recalls its previous recommendation for cooperation between Faculties in order to eliminate this phenomenon. Furthermore, and apart from the previous recommendation, the review team believes that the University must develop a central policy regarding the promotion criteria for the academic staff. Under the current conditions of independent Faculties, each Faculty follows its own policy through the respective Scientific Boards.

The second problem regarding human resources in the STU has to do with administrative staff. The review team is obliged to note its disappointment with the lack of interest inside the University regarding administrative staff development. The establishment of a clear, effective and efficient policy for administrative staff development is a prerequisite for the rationalisation of administration of the STU. This is something that the review team strongly recommends to the University. Evidently, motivation and training issues should have a predominant position in such a policy.

14. Issues concerning research

The review team has observed significant inconsistencies regarding the research policy in the STU. To be more accurate, we should rather refer to many decentralized research policies, since the university does not seem to have a central research policy. This is a major first inconsistency by itself. As stated in the SER, one of the elements of the vision of the STU is to be a research oriented university and to achieve the status of “Research University” in the system of higher education in Slovakia. At the same time, the SER states that “a fully decentralised model of management is applied in the area of research with the aim to secure basic research in connection to the principle of academic freedom and the right for research”. The review team could never dispute the principles and the values of academic freedom and of the right for research in a university. However, if these values and these principles are to be combined with the aforementioned vision of the STU regarding research, then a fully decentralised model of research management could not help in realising this vision.

In consistency with the above vision, the STU has to operate in a research environment where most resources come from outside in a competitive and oriented manner. The need for balance between academic/basic research and applied/oriented research is evident in such an environment. At the same time, if the STU wants to develop excellence in research, then it has to set priorities, since it is not possible for a university to improve and maintain excellence in all research areas. These necessities require, above all, central management and administration structures. The review team recommends, therefore, that the STU should first of all establish a centralised/integrated research policy, setting the required priorities, and then shift to centralised/integrated management and administration structures in order to implement this policy in the most proper way and in order to realise its vision regarding research. The establishment of an effective and efficient central administration structure for research requires highly qualified and specialised personnel and this requires, in turn, a special staff development policy. Finally, the shift to a centralised/integrated management and administration structure for research requires the reconsidering of the overhead policy of the STU. As mentioned in the SER, only 1% of the research income of Faculties is transferred to the university centre. This percentage should increase significantly in order to match the new centralised/integrated structure, from which the Faculties will ultimately benefit as well.

15. Issues concerning ICT

The problem of segmentation appears also in the use of ICT as a result of the autonomy and isolation of Faculties. Duplication (or even multiplication) of both hardware and software licensing is a common issue in the STU. The review team recommends that the STU should maximize the utilisation of ICT in both its scientific (education and research) and administrative activities, and this requires maximally integrated and comprehensive procedures.

DEVELOPMENT CAPABILITIES AND CAPACITY FOR CHANGE

16. Strategic management

The first methodological question in the EUA Institutional Evaluation Programme is, “What is the institution trying to do?” and refers to the vision, the mission, the aims of the institution and its mid- and long-term strategies. This question, together with the second one, “How is the institution trying to do it?” form the process through which the institution draws up its Strategic Plan. Then, we have the third question, “How does the institution know it works?” which actually deals with the quality culture that dominates the overall functioning of the institution. And, finally, the fourth question, “How does the institution change in order to improve?” defines the operation of change as such and identifies the capacity of the institution to transform its vision and mission into appropriate strategies and operational plans to be implemented within reasonable timeframes.

In this chapter of the Review Report, we shall deal with issues concerning strategic management, i.e. with issues related to the first two methodological questions, while in the next two chapters we will deal with issues concerning quality culture and operation of change respectively.

As mentioned earlier in this report, the vision of STU is:

- To be a research oriented university and to achieve the status of “Research University” in the system of higher education in Slovakia;;
- To be the leader among technical universities in Slovakia;
- To be a significant and reliable partner for society.

This vision is linked to the long-term plan for the development of the STU.

The STU is in the process of implementing the long-term plan for its development. The review team is aware of the main objectives of this long-term plan and for its recent update. As we were told in our second meeting with the Self-Evaluation Steering Group of the STU, most of the objectives of this update were expected to be achieved by the end of 2006. However, the review team has some important comments to make on strategic issues. Establishing a strategy, implementing a strategy and assessing this strategy can be realised only through structures and procedures which are institution-based. Making strategic choices and setting priorities are constituent elements of a strategic plan, and these can only be functional at institutional level. Therefore, the review team has serious reservations about the ability of the STU to develop and to implement an efficient and effective strategy through the existing fragmented structures and under the corresponding attitude in the University. These reservations have been outlined in the sections of the present report which deal with the relevance between visions and structures of the STU.

To that end, the review team considers the establishment of the appropriate operational environment inside the University as prerequisite for the development and implementation of its strategic plan. Institutional attitude, integrated and comprehensive central structures,

efficient and effective governance and strong leadership are the key elements for this environment, as they are described in our recommendations regarding structures (section 7.6).

Besides the operational environment of the University, strategic management needs its own structures. These structures and procedures will allow for the best relevance of the strategic plan to the vision of the University and make best use of the appropriate methods and techniques (e.g. SWOT analysis). When it comes to strategic management, it is important to consider the need for the effective and efficient implementation of the strategic plan, especially in conditions of insufficient resources, which leads to the need for prioritisation regarding strategic planning. It is necessary, therefore, that the STU establishes a systematic procedure, which will continuously monitor not only the implementation of the strategic plan, but also the validity of the objectives as well.

Nevertheless, and irrespective of this monitoring procedure, the efficiency of the strategic management in a university is affected greatly by the way in which a clear strategic perspective dominates the functioning of its leadership and of its governance, decision-making and management collective processes, both at institutional level and at the level of the various Faculties. This means that, in the case of the STU, both the Senate at the institutional level and the respective bodies at the level of the Faculties should be in the position to take strategic decisions, i.e. decisions that will improve the strategic goals of the University. And, in that context, an important task for the leadership of the University is to *inspire* and to *lead* the university community in the context of such strategic perspectives.

17. Quality culture

The term “quality culture” defines the overall attitude of a university which focuses on the concept of “quality” and which, thus, applies to issues like quality assurance, quality assessment, quality improvement etc. Quality is a central element in European higher education today. Furthermore, it has also assumed a key role in the Bologna Process, and the “*Standards and Guidelines for Quality Assurance in the European Higher Education Area*” have already been adopted by the European Ministers in Bergen in May 2005, building also, in this way, a European perspective and a European context for quality assurance in higher education. Furthermore, every country participating in the Bologna Process is committed to establishing its own national quality assurance system by 2007 according to the above standards and guidelines by ENQA. In parallel, EUA actively encourages its member universities to implement their own internal quality assurance mechanisms and to develop a quality culture shared among universities throughout Europe.

The system of quality assurance in Slovak higher education is based on internal quality assessment, external evaluation and accreditation. Internal quality assessment lies with the responsibility of each individual institution, while external evaluation is part of the accreditation procedure and is carried out by the Accreditation Commission³. The review team had the opportunity to realise that there are not any systematic structures and processes for quality

³ See National Bologna Report for Slovakia for the period 2006-2007, p. 12.

assurance and quality culture at the institutional level in the STU. We were informed, however, that a group has been established to monitor and manage quality at institutional level although it had not been activated at the time of our second visit.

Quality monitoring in the STU seems to equate the monitoring of data according to the standards introduced by the Slovak Accreditation Commission, and to the standards required for habilitation and appointment (inauguration) procedures⁴. However, there is no centralised structure for that. Nevertheless, the review team recognises the efforts made by Departments and/or Faculties to develop quality and give accounts of their education activities in annual reports. However, the annual reports of the Faculties are not challenged or reviewed by the Academic Senate or by the Scientific Board of the University.

In our discussions with staff we discerned an inability to engage with issues of quality assurance structures and the lack of knowledge of such systems in other countries. It is interesting to note that in many of our meetings we heard that a first sign of quality is the easiness of their graduates to find a job, while a second sign is their international co-operations and partnerships.

The review team recommends that the STU should establish systematic internal quality culture processes and that they should be related to the strategic management processes and help in the assessment of both the implementation rates of the strategic (or long-term) plan and the validity and feasibility of its objectives. In that context, the STU should utilise the experience and the expertise gained so far by the members of the Self-Evaluation Steering Group.

One specific point that the review team wishes to raise regarding quality assurance is the procedure of assessment of teaching and courses by the students. The review team is aware that students' questionnaires are used in many Departments, but students are not active enough. Students in most of our meetings claimed that this process is *gradually degenerating* because of the lack of interest shown by the students. Students ascribe this attitude to their feeling that the process has *no visible consequences* at all. The review team wants to stress that students should be brought into the centre of the evaluation process since it is one of the most effective ways for the students to get involved in the educational procedures and to contribute to their improvement.

The evaluation of teaching and courses by students is a very sensitive procedure. This process is quite common in most European countries. Students have the opportunity and also the obligation *to evaluate* both the courses and the teachers by anonymously filling a questionnaire. As mentioned earlier, this process is already applied in the STU, but with serious weaknesses. One frequently raised question concerns the consequences of this process. In principle, the main purpose of the process is to improve the quality of education (concerning either courses or teaching). The university has to find the ways to make this improvement a reality perceived by everyone, but especially by the students themselves. Apart from this, there is a second area of consequences referring to the academic staff members themselves. The

⁴ See Self-Evaluation Report, Part 1, p. 25.

simplest answer to this question is that the results of the evaluation should affect the promotion of the academic staff members. However, this is a consequence that has to be handled with care, and the review team would rather recommend that the process and the results of the evaluation are used as an *inspiration* to promote quality control and staff development. If the results of the teaching evaluation procedure are not adequately exploited, if they are not analysed properly and integrated into the continuous improvement of the content and the methods of teaching and learning, then it is probable that the teaching evaluation process will *degenerate* into a bureaucratic and meaningless operation.

Therefore, the review team recommends that the STU should pay increased attention to the teaching evaluation process and should foster its effectiveness and reliability. The teaching evaluation process should be carried out with the proper methodology and with a visible impact on the improvement of teaching, and should be integrated into the overall internal quality assurance process. It must be stressed, however, that students and teachers should be *convinced* and, even more, *inspired* and *motivated* to get actively and effectively involved in such a process. Opportunities for staff members to address weaknesses in their teaching should be made available, and even be made compulsory in cases of continued failure.

18. Capacity for change

The general perspective

Besides the quality assurance issues, the EUA Institutional Evaluation Programme focuses on the *capacity for change* of the universities visited. The reason for this is a widespread conviction that European universities are exposed to increasing *demands* from society and the labour market and in many countries they are also exposed to growing *competition* from other institutions of higher education.

If the universities do not seize the initiative themselves and show their capacity for change and their adaptability to radically new conditions in an era of mass higher education, then there may be *risks* that even the important core academic values, which we undoubtedly all want to preserve, might be in jeopardy.

Universities have always had, and still have, the twofold duty of *defending* traditional values and of *leading* society into new areas. There have been periods in their very long history, when the universities were too successful as defenders of the traditions at the price of *isolation* from society and petrification. But fortunately enough, we can also look back to epochs when the universities were true centres of *innovation* in many respects.

The capacity for change requires firstly the identification of all the factors requiring change, as well as of the features and the content of the change needed. Secondly, it requires each university to determine its own mission in conjunction with the changes needed and to set its priorities. Thirdly, it requires determining the strengths and weaknesses of each university with respect to its own identity and characteristics and to the existing external conditions. Finally, it requires an efficient mechanism to continuously assess the course of each university towards its objectives, towards the changes required. What we have to ask ourselves is whether the

traditional organisation and leadership of a university will be capable of fulfilling its task at the beginning of the 21st century.

The review team wants to stress that ***the capacity for change is a sine qua non condition for a modern university in a modern society***. The capacity for change requires clear mission, inspired vision and realistic objectives for the university. It also requires effective strategic planning and the establishment of a quality culture. Furthermore, it requires tools such as action plans and milestones. These are the internal requirements. There are of course external requirements as well. They have to do with resources (both financial and human), with the legislative framework and the relationship between the universities and the state, which have to encourage and support the universities in strengthening their capacity for change, and, finally, with the relationship between the universities and the society at large following the principle of the public responsibility for (and of) higher education and research.

Apart from these internal and external requirements, the capacity for change requires, above all, inspiration. It requires inspired, motivated and determined people. It is extremely important to realise that elements of strategic planning do not themselves change the universities. Changes in universities have to be driven by people: Staff and students and an inspired university leadership making sure that the actions in the action plans are in progress and that the milestones are achieved.

The specific perspective of the Slovak University of Technology

According to the above analysis, the capacity of a university for change actually illustrates its capacity to adapt to the continuously changing external conditions and to stay abreast with the developments in the surrounding environment. In that context, the review team believes that the capacity for change of a university like the STU should be built upon seven principal action lines: a) actions concerning the changes needed in order to adapt to the new European landscape built through the establishment of the European Higher Education Area, b) actions concerning the changes required to adapt to the new landscape of higher education in Slovakia, c) actions concerning the changes required in order to take full advantage of the accession of Slovakia to the European Union, d) actions concerning the changes needed to improve its reputation in the international higher education and research environment, e) actions concerning the changes needed to strengthen its links with the society and the economy, f) actions concerning changes needed to improve efficiency and visibility of the governance, decision-making and management processes, and g) actions concerning the changes needed to improve its capability to take strategic decisions and to make strategic choices.

In order for the capacity of the STU for change to be enhanced, however, there are some minimum requirements, which at the end act as key-tools for that purpose. These tools-requirements have been mentioned in various places in the present Review Report. Before ending this chapter, the review team considers it necessary to mention here some of the most important of them:

- Integrated and comprehensive structures;
- Institutional attitude;
- Prioritisation in research;

- Genuine implementation of Bologna reforms – Shift to the new educational paradigm;
- Efficient and effective institutional governance;
- Quality culture;
- Strategic planning and management;
- Long-term strategy for sustainable links with economy.

CONCLUSIONS AND RECOMMENDATIONS

19. Conclusions

The Slovak University of Technology is the oldest and biggest technical university in Slovakia, being at the same time the only comprehensive one. Accordingly, it plays a leading role among technical universities in the country. Furthermore, it aims to be a world-class research-oriented university, to offer high quality education to its students and to play both an expert and a service role to society and economy.

Today, the STU is at a crossroads, having to face the challenges of the emerging European Higher Education Area and of the new reality emanating from the accession of Slovakia into the European Union. The STU has, therefore, to adapt its strategy to this new landscape accordingly and at the same time to build and activate its basic working tools for the effective and efficient implementation of this strategy and for the establishment of quality culture within the University.

It is in that context that the review team tried to approach the work done so far by the STU, its achievements and its plans, but also its weaknesses too. It is in that context also that the review team made its analyses and presented its recommendations throughout the whole Review Report.

If there is something left to be noticed here, at the end of our conclusions, it could be some last words concerning the necessity for the STU to shift towards institutional structures, to cultivate an institutional attitude among its main actors. The new era requires strong institutional governance, and this should not be confused with authoritarian leadership. Democracy can be combined with effectiveness and efficiency; top-down approaches can be combined with bottom-up ones; personal authority can be combined with collective action. This change of attitude will make it possible for them to take more initiatives at the institutional level, to get acquainted with the need to make strategic choices, to set priorities and to realise the necessity for changes in the University in order to adapt to the new era.

20. Summary of recommendations

Before coming to the end of this Review Report, we summarise here the main recommendations, as they have appeared underlined in the respective paragraphs of the text.

Structures

1. Given that the structures in the STU are determined by the existing Slovak Law for Higher Education, the first recommendation of the review team is addressed to the Government, which should reconsider the overall structure of the Slovak HEIs, especially with regards to enhancing an institutional approach.
2. Regarding the University itself, the review team believes that the STU should try to make best use of the already existing structures and to implement the existing laws in a more efficient way (e.g. reducing from six to three the members from each Faculty in the Academic Senate).
3. Regarding governance, the review team recommends that the University should reconsider its overall structures and establish its own parallel structures (including strong central administration), aiming for a real and powerful central governance and leadership. The Rector should have the power on the one hand to lead the University to its future and on the other hand to run the University in its day-to-day functioning. (e.g. the Rector should have a strong influence in the allocation and management of funding inside the University). This power of the Rector should be recognised and be accepted by all factors at all levels.
4. The above parallel structures should ensure, among other things, the efficient coordination of Faculties, and should also meet the need for effective two-way communication and information exchange between central governance and Faculties.

STU and its social and economic environment

5. The review team wants to support the efforts of the STU to maintain and further improve its close links with Slovak economy and industry, but, at the same time, recommends that the University should elaborate a long-term strategy towards the sustainability of these links and their consequences. Furthermore, the review team recommends that the STU should, in parallel, improve its more general links with society at large. It is understandable that the priorities for a technical university lie with economy and industry, but the links with the society at large should not be ignored. To that end, the STU should utilise the possibilities offered by the functioning of the Board of Trustees and it should also further improve the social component of the Institute for Lifelong Education.

Issues concerning students and studies

6. The review team recommends that the STU should establish an effective policy to combat drop-out. The first step in this policy should be a survey to define the real characteristics of the problem and to analyse the reasons. The second step should be the development of effective

didactic support during the first year to narrow the gap with secondary level and to establish systematic academic and career counselling processes. As for the issue of the large number of introductory theoretical courses in the first year of studies, the STU has to deal with it in a more effective way in the context of the curricula restructuring. Combating drop-out is one of the areas where the STU should establish a policy at institutional level. This is not an issue where each Faculty should establish its own policy.

7. Regarding teaching overload of the academic staff, the review team recommends that the Faculties should at least cooperate under the coordination of the central leadership in order to remove all cases of duplicated courses.

8. Students ask for more open and less formal dialogue with their teachers, and this is something that the review team could recommend, although it has to do with personal attitudes, mentalities and behaviours.

9. The review team recommends that both the university leadership at all levels and the Student Parliament should encourage increased activity and student participation in university governance at all levels. In a similar manner, the review team recommends that the involvement of students in the procedures of assessment of courses and teaching should become more active too.

Implementing Bologna

10. The review team recommends that the University and the Faculties should reconsider, in parallel, the curricula of both bachelor and master (engineering) studies, dealing with each one of them as a separate and autonomous study programme and stressing the relevance to employment for both cycles, as well as the relevance between the two levels.

11. The review team recommends that the STU should increase its efforts to genuinely implement the Bologna reforms and principles (ECTS, Diploma Supplement, learning outcomes, shift to the new “educational paradigm”), which, of course, should be combined with the restructuring of curricula.

12. One more thing to be added here is that the genuine implementation of Bologna reforms, especially with regards to studies, has to be centrally organised, facilitated, steered and coordinated, but, above all, it has to be inspired at institutional level. It must be the university leadership that should guarantee for the success of this effort and this need should not be jeopardized by the autonomy of the Faculties. This is something that the review team strongly recommends to the University.

Issues concerning internationalisation

13. The review team recommends the following concrete measures for the STU to improve its internationalisation capacity:

- Implementation of an efficient central mechanism to coordinate and drive the internationalisation process, combating bureaucracy;

- Widespread dissemination of information;
- The overcoming of problems regarding English language;
- Improved “social” conditions for incoming international students and staff.

Issues concerning financing

14. The review team strongly recommends that the STU should establish appropriate procedures at institutional level under the responsibility of the Rector, in order to rationalise financial management and in order to set priorities and develop appropriate initiatives.

Issues concerning human resources

15. The review team recommends the establishment of a motivation policy to attract and to keep younger academic staff in the University. Higher starting salaries for younger academics should be a key element of this policy, accompanied by better conditions inside the University. Furthermore, and apart from the previous recommendation, the review team believes that the University must develop a central policy regarding the promotion criteria for the academic staff.

16. The establishment of a clear, effective and efficient policy for administrative staff development is a prerequisite for the rationalisation of administration of the STU. This is something that the review team strongly recommends to the University. Evidently, motivation and training issues should have a predominant position in such a policy.

Issues concerning research

17. The review team recommends that the STU should first of all establish a centralised/integrated research policy, setting the required priorities, and then shift to centralised/integrated management and administration structures in order to implement this policy in the most proper way and in order to realise its vision regarding research. The establishment of an effective and efficient central administration structure for research requires highly qualified and specialised personnel and this requires, in turn, a special staff development policy.

18. The review team recommends that the STU should reconsider its overhead policy. To that direction, the STU should increase significantly the percentage 1% of the research income of Faculties that is transferred to the university centre in order to match the new centralised/integrated structure from which the Faculties will ultimately benefit.

Issues concerning ICT

18. The review team recommends that the STU should maximize the utilisation of ICT in both its scientific (education and research) and administrative activities, and this requires maximally integrated and comprehensive procedures.

Strategic management

19. The review team recommends that the STU should establish a systematic procedure, which will continuously monitor not only the implementation of the strategic plan, but also the validity of the objectives as well.

Quality culture

20. The review team recommends that the STU should establish systematic internal quality culture processes and that they should be related to the strategic management processes and help in the assessment of both the implementation rates of the strategic (or long-term) plan and the validity and feasibility of its objectives. In that context, the STU should utilise the experience and the expertise gained so far by the members of the Self-Evaluation Steering Group.

21. Therefore, the review team recommends that the STU should pay increased attention to the teaching evaluation process and should foster its effectiveness and reliability. The teaching evaluation process should be carried out with the proper methodology and with a visible impact on the improvement of teaching, and should be integrated into the overall internal quality assurance process. It must be stressed, however, that students and teachers should be ***convinced*** and, even more, ***inspired*** and ***motivated*** to get actively and effectively involved in such a process. Opportunities for staff members to address weaknesses in their teaching should be made available, and even be made compulsory in cases of continued failure.

Capacity for change

22. The review team recommends that the capacity for change of a university like the STU should be built upon seven principal action lines: a) actions concerning the changes needed in order to adapt to the new European landscape built through the establishment of the European Higher Education Area, b) actions concerning the changes required to adapt to the new landscape of higher education in Slovakia, c) actions concerning the changes required in order to take full advantage of the accession of Slovakia to the European Union, d) actions concerning the changes needed to improve its reputation in the international higher education and research environment, e) actions concerning the changes needed to strengthen its links with the society and the economy, f) actions concerning changes needed to improve efficiency and visibility of the governance, decision-making and management processes, and g) actions concerning the changes needed to improve its capability to take strategic decisions and to make strategic choices.

ENVOI

Coming to the end of this report, the review team feels the need to express once again its sincere thanks to the Slovak University of Technology for the excellent arrangements provided to make its two visits a challenging and delightful, although very intensive, experience. At the same time, the review team wishes to thank the STU for the generous and overwhelming hospitality.

It has been a great pleasure and a very stimulating experience for the review team to be introduced to the STU during this specific and crucial period both for the Slovak higher education, but, also, for higher education in Europe at large. It has also been a privilege and a sheer joy for us to meet so many enthusiastic and highly committed people.

The review team has been positively impressed by the commitment and the engagement of all people in the University, especially of its leadership. The review team is convinced that the initiatives undertaken by the leadership of the STU are taking the University in the right direction and strongly supports the leadership to continue on this course.

Our recommendations are intended to be our own contribution to the process of change and to help the STU take best advantage of the opportunities and cope with the threats existing along its route to the future. At the same time, our report aspires to function as an inspiration for the University as a whole, but more specifically for all those people, students and staff, who have a concern for the future of the University.

As our final words, we want to express our hope that our report will indeed play the role that was described in the concluding words of the STU's Self-Evaluation Report, being therefore *“a triggering, exciting and extraordinary beginning in the quality journey”* for the Slovak University of Technology.