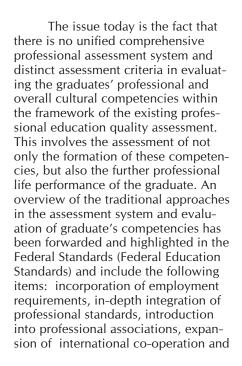
TECHNICAL UNIVERSITY GRADUATE EMPLOYMENT RATE

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Higher institution efficiency is determined by employability and education quality of the institution itself, whereas efficiency criteria are based on the compliance of graduate competencies to employers' requirements, as well as their labour market competitivity. Development strategy of this or that institution, as well as its policy, target and objectives in education, research and innovation significantly depends on future graduate employability and his or her professional competitivity. This fact highlights the definition of graduate employability as education quality assessment criterion and as an indicator of labour market demand. Besides, graduate employability is also an indicator of employer satisfaction and continuous improvement of graduate competences which, in its turn witnesses the attractiveness of this or that institution.

Key words: employability, competitiveness ability, competences, professional competence certification, quality man.



breakthrough into the International Education Space under the Bologna process.

Development and implementation of quality management system and the independent public-professional accreditation of education programs established the groundwork for the updating of the independent education quality system and the furthering of graduate competencies throughout all the stages of his/ her professional life.

The most effective solution in the provision and independent evaluation of the combined graduate and business (enterprise) specialist competencies respective to employer's requirements involves the development and promotion of an independent evaluation system and accreditation of professional engineering qualifications. Another important problem is the evaluation of such factors as the employability of



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This, in its turn,

technical university graduates, their

the relevance of this or that priority

qualification area, profile or special-

would enable the university, faculty or

even profile department to reorganize

ist training field.

labor market competitivity, as well as,

its development strategy, policy, targets and objectives in preference to the implementation of on-demand education programs and graduation training in competitivity profiles. This problem can be successfully solved through an independent evaluation system and accreditation of professional engineering qualifications, including the establishment of an expert-methodology center network, embracing integrated concepts, rules and procedures, and complex regulatory-procedural documents. The activities of this independent reliable evaluation system for specialist competencies require the solution of a set of problems, including concept and principle development, organizational system structure, regulatory-methodical provision, infrastructure development, expert- methodology center network, training expert-specialists and the activity system organization itself with the involvement of enterprise- employers and professional associations [1,2]. The key area of activity – efficiency evaluation of all the activity system profiles, and the result of this integrated

Due to labour market competitivity and employer requirements the graduates and enterprise specialists should possess a set of competencies, including knowledge, learning skills and abilities and definite personal social competencies (Fig.1).

activity- evaluation of the employ-

ability and competitivity of graduates

and enterprise specialists, as well as,

skills profile and available university

are the significant education quality

indexes of any university, faculty or

department activity.

professional training, which, in its turn,

Every participant in the education process and interested parties in developing the graduate competencies is different. At the elementary and

secondary education levels personal and social qualities are introduced and developed, and eventually shape into competencies. Education institution (EI), i.e. university, develops and shapes combined cultural and professional competencies, social and personal qualities of the graduates. Under conditions of production activities the professional competencies are not only introduced, but also developed and enforced to further such abilities as team commitment, succeed corporate culture, social and personal responsibility [3].

Graduate's employability should be evaluated according to four index categories:

- objective indexes, determined by the specific requirements to the profession, employer requirements, labour market;
- personal (subjective) indexes, related to on specific graduate;
- external and internal social-economic factors;
- political conditions.

Basic qualities and competencies shaping during the education- instructional process including enterprise- employer requirements:

- skills in sophisticated world-practice technology;
- knowledge of sophisticated domestic and foreign equipment – technological, monitoring and experimental;
- knowledge of domestic and foreign reference documents (RD), standardization principles and management methods;
- skills in modern management methods, including management qualities, management resources, innovative and production management and personnel management;
- knowledge of corporate culture principles, responsibility and team commitment;
- personal and social responsibility;
- high moral standards;

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- creativity, leadership and learning abilities;
- foreign language skills;
- skills in modern IT;
- open-mindedness, high cultural level:
- adaptability and tolerance;
- motivation.

Integrated index evaluates the overall employability indexes [4].

Higher graduate employability Kc, in comparison to those of graduates and specialists of the same profession (qualification, profile, specialization field) is a ratio of specialist competency level relevant to labour market requirements/ employer requirements (Pc), salary (Zc) and education expenses (Rc):

$$K_c = \frac{P_c \times Z_c}{R_c} \tag{1}$$

Specialist competency level relevant to requirements is the value ratio of graduate employability \ enterprise specialist index sum to corresponding index values, required by the employers:

$$P_{c} = \frac{\sum_{1}^{n} k_{ci}}{\sum_{1}^{m} k_{rm}}$$
 (2)

where, $k_{\rm ci}$ – value of one of the n indexes, describing the specialist –graduate competency,which is normalized to its highest possible value-meaning;

k_m – value of one m specialist competency index as employer or labour market requirements, normalized to its maximum possible value-meaning.

Graduate employability within the labour market K_{pc} is determined by objective indexes- profession competitivity, qualification (area, training profile), socio-economic factors and political conditions, within a profession area- all professional competencies, social and subjective, personal qualities of the specialist:

$$K_{pc} = K_n \frac{P_c \times Z_c}{R_c} \tag{3}$$

Higher profession competitivity in comparison to other professions is the ratio of the specialist competitivity of one given profession relevant to the labour market or profession rating (Pn), averaged salary of this profession (Zc) and education expenses (Rc):

$$K_n = \frac{P_n \times Z_n}{R_c} \tag{4}$$

Fig. 1 Function and role of participants in the development process of graduate competencies

Elementary & secondary education SSEE*	Personal and social competenci - working abilities - activity (ambition) - sociability	es: - educational and cultural level - personal leadership (determination)
Educational institution (EI)	professional and cultural competencies (in accordance to FSES** including employer requirements	 social responsibility creativity succeed corporate culture ethical principles, morality
Enterprise-partners of El	- professional competencies - social and personal responsibility	- team commitment - motivation

^{*} Specialized Secondary Educational Establishment

^{**} Federal State Education Standards

Objective indexes of specialist competitivity:

- employability and occupation prestige;
- training (education) quality, professionalism;
- competitivity (prestige) of the educational institution;

Subjective indexes of specialist competitivity:

- professionalism (education quality, training);
- personal qualities;
- social qualities.

Analytical evaluation of employability through ratios (1)-(4) in scaling (rating) and qualimetric approaches for competitivity evaluation indexes provides an effective process in shaping graduate competencies of educational institutions and enterprise specialists at different stages of their professional activity..

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