



**NATIONAL METALLURGICAL ACADEMY OF UKRAINE**

# **CONCEPT**

**for Entrepreneurial activities of the  
Centre of Innovation, Commercialization and Entrepreneurship**



**WITH THE SUPPORT OF  
THE FLEMISH GOVERNMENT**

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## **Content**

1. Current state, challenges and needs
2. Scope
3. Mission and objectives
4. Principles
5. Societal impact
6. Financial matters
7. Evaluation and timetable

## **1. Current State, Challenges and Needs**

1.1. Various problems, challenging development of Ukraine, are rooted in the lack of partnership between stakeholders from different sectors of human activity. Lack of institutional support to ensure partnership in the sphere of knowledge transfer drastically hinders innovative development. Coinciding functions of education and research, universities could be the most relevant actor to mediate partnerships for the development of entrepreneurship in the modern Ukraine.

1.2. Currently NMAU faces following problems, generally common for the universities in Ukraine:

- weakening of human resource potential because of low attractiveness of academic career, lack of investments to research and brain drain;
- low level of awareness in the society of the role of university as an actor able to ensure current and future wealth creation;
- contradictions between academic tradition and entrepreneurial culture;
- lack of experience in establishing of knowledge transfer partnerships with wide range of stakeholders including SME;
- legislative obstacles limiting possibility of university to hold the shares in created spin-off.

1.3. As an advantage it should be noted that NMAU is located in a region with:

- diverse industry base with large enterprises and SMEs;
- various high skilled teaching and research organisations;
- long-term traditions in education embedded in community and economy;
- strong culture of knowledge.

1.4. NMAU has long-term tradition since 1899 of education and research with leading position in Ukraine in the domain of Metallurgy & Materials Science, reflected with its National status. Its research schools were established during the period of industrialisation and, therefore, rather oriented on the large industry needs, while the interests of emerging SME sector are less addressed. Therefore, general development strategy of NMAU envisages university management reform aimed to foster knowledge transfer within wide range of stakeholders in order to meet challenges and to exploit new opportunities of the market-based economy.

1.4. Important element of envisaged reform is creation of the Centre of Innovation, Commercialization and Entrepreneurship. Centre is created in the framework of the international project “Flemish-Ukrainian Entrepreneurship Laboratory” (FUEL) funded through co-operation programme between Flanders and Central and Eastern Europe in consortium with two Flemish partners - Katholieke Hogeschool Sint-Lieven and VOKA-Chamber of Commerce East-Flanders University - and Dnipropetrovsk Chamber of Commerce. Therefore, the vision for the mission,

goals for the Centre reflects advanced Flemish experience and the best EU practices of higher education reform through integration of education, research, innovation and entrepreneurship.

## **2. Scope**

2.1. This Concept outlines vision, measures and policy to support the entrepreneurship in academic activities and will contribute to the reform of the Ukrainian higher education in line with the European practice.

2.2. This Concept should facilitate the introduction of new services in the NMAU and thereby contribute to the realisation of common vision worked out within the FUEL Project.

2.3. Guidance and support for wider implementation of this Concept on the regional level will be provided by the NMAU through:

- a) dissemination of the experience attained during fulfilment of the FUEL Project;
- b) bringing the examples of the best practices;
- c) sharing with services and mechanisms for entrepreneurship support.

2.4. Ministry of Education and Science, Youth and Sport of Ukraine, appropriate governmental bodies on the national and regional levels are seen as important stakeholders to develop the legislative framework for the entrepreneurship support services.

2.5. The Concept encourages multi-stakeholder cooperation and partnerships. The activities to be undertaken for the entrepreneurship services will be developed and fulfilled in the partnership with:

- a) various external institutions responsible for creation, development, application and dissemination of knowledge;
- b) students committee as a driving force of entrepreneurship;
- c) industry and SME representatives, as well as policy-makers on regional and governmental levels;
- d) all kinds of organisations on both local and regional governance levels that have the professional capacity to contribute the sustainability of the achieved results;
- e) mass-media to increase the public awareness and to equip the society with understanding of mechanisms for support and development of entrepreneurship.

## **3. Mission and Objectives**

3.1. General mission of the National Metallurgical Academy of Ukraine is formulated as “*Creation, development and dissemination of knowledge through*

*teaching and research of the highest international standards for the benefit of society”.*

3.2. Centre is established to contribute implementation of the strategic mission of NMAU through support of researchers, teachers and students through coordination of their efforts and communication with the external stakeholders from the world of business and industry in order to facilitate transfer and valorisation of knowledge for the benefit of society at large.

3.3. Methodology basis for the Centre is the open innovations paradigm where the use of purposive inflows and outflows of knowledge of different stakeholders is a principle to accelerate internal innovation and expand the markets for its external use through entrepreneurship. **The objectives**, established for the Centre are:

- 1) Transversal co-ordination of the efforts of NMAU structures responsible for support of entrepreneurship (R&D sector, faculties, departments, laboratories etc)
- 2) Efficient intellectual property management and protection aimed to facilitate commercial knowledge transfer, which should result in the increased number of patents offered to or implemented by industry
- 3) Monitoring of the demands of industry/business and feeding it back to the research activities as well as to the curriculum development which should result in
  - a. significant increasing of the volume and improved quality of applied research;
  - b. enhanced role of entrepreneurship in the curricula (MSc and BSc level);
  - c. wider engagement of university staff in providing up-to-date courses to meet the needs of LLL audience in knowledge of entrepreneurship.
- 4) Assistance in creation of spin-offs by advice, supervision, providing office facilities and premises in NMAU
- 5) Enhancing the level of awareness in the society at large of the importance of entrepreneurship through publicity and media, fairs, round table discussions etc.

#### **4. Principles**

4.1. Positive experience existing in the R&D sector of NMAU must be adjusted to the realities of the market economy. Extensive experience of Europe and Flanders should be learned and applied in order to facilitate knowledge transfer and valorisation, focusing not only on large industrial companies but also on the SME sector through support of entrepreneurship.

4.2. The launching of entrepreneurship services should be carried out with participation of students' committee and active involvement of the representatives from business and industry.

4.3. Launching of entrepreneurship services should not be limited on creation of the Centre and special events. It should imply the development of human resources able to fulfil the services of a high standard.

4.4. The developed mechanisms of entrepreneurship support must be attractive for both academic and industry representatives. The involvement of these stakeholders must be based only on their willingness and interest to be active partners for the mutual benefit.

4.5. Reform should help to overcome such weakness of the Ukrainian higher education as a poor flexibility of the research in response to rapidly changing demands of the market economy.

4.6. Centre should encourage use of systemic, critical and creative thinking among the students at all levels including life-long learning audience that are prerequisites to develop personal skills and qualifications towards creation of enterprise.

4.7. Implementation of this Concept requires multi-stakeholder cooperation and partnership. The main actors are not only researchers, students and employers but also governmental and local authorities, public sector, mass media and non-governmental organisations.

4.8. Sustainability of the created services must be provided with transparent and clear institutional reform of university management aimed to bring transversal collaboration among structures responsible for support of entrepreneurship (faculties, departments, R&D sector) through the Centre.

## **5. Societal impact**

5.1. The Centre will provide a new platform for partnership among academia and business in order to generate an income and to create the benefits for the society at large.

5.2. Benefits for NMAU are seen as follows:

- academics, students (BSc, MSc and PhD levels), lifelong learning audience will profit from the inflow of interdisciplinary knowledge and entrepreneurial skills, which will result in the enhanced employability;
- international networking within the FUEL project and wider will foster internationalisation of the research activities;
- new possibilities to commercialise innovations with great social and economic value will be developed in the Centre;
- new funding opportunities will be created due to advice and services of the Centre.

5.3. Benefits for business:

- positive impact of cutting edge research on operational practice;

- access to the best research teams and students;
- fast promotion of innovative products and services to the market through creation of enterprise.

5.4. Important precondition for the successful operation of the Centre is lasting support from the regional and national authorities. The vision of NMAU is that the strategy towards the structured collaboration between NMAU and world of business will ensure delivery of commercially feasible innovative products contributing to economic development and the growth of a knowledge culture in society at large.

## **6. Financial matters**

6.1. Ensuring adequate financial means to implement the Concept is an important precondition for its success. Establishing of Centre is seen as an investment that will pay off in the long term.

2. During the FUEL project's lifetime the Centre is supported with the Flemish funding; however, yet during the project's lifetime and especially after the Flemish funding will be seized (in 2012) NMAU undertakes the obligation to sustain the entrepreneurship services through the developed Centre.

3. Naturally, the Centre must demonstrate its own financial sustainability. Involvement of different kinds of funding with the Centre's share, needed to sustain the office and staff, will be addressed through:

- commercialisation of available research results through promotion to the relevant customers;
- efficient intellectual property management, including development and trade of the patents;
- involvement of relevant partners from industry to invest in research and innovations;
- creation of spin-off companies able transfer the knowledge from university directly to its practical application in an economically feasible way;
- applying for different schemes of funding of the research activities on the regional and national levels;
- organisation of entrepreneurship fairs and competitions to bring together students, academics and industry representatives;
- international grant-seeking.

## **7. Evaluation and timetable**

7.1. The process-oriented evaluation and benchmarking of the Concept will be done against implementation of the objectives formulated in section 3.3 above, considering also such issues as:

- a) identification of the leaders and coordinators responsible to drive the Concept;
- b) appropriateness of policy, legal and operational frameworks to support the Concept;
- c) multi-stakeholder cooperation and partnerships;
- d) relevance of services to the current needs and their impact on the curriculum.

7.2. Implementation of the Concept should be seen as a continuous process. However, in order to facilitate assessment of its progress following phases for implementation are considered:

Phase I (before January 2012): implementation within the FUEL project lifetime. The schedule and the scope for Centre during this period are stipulated by the project's workplan; however NMAU is responsible for the real content of work towards increased role of the Centre and knowledge transfer activities in research and education. This would include a review of current content and scope for existing university structures, issuing of necessary decisions on the level of rectorate and Academic Council, review of activities, and identification of any obstacles or gaps.

Phase II (after January 2012): sustainable operation of the Centre after the end of FUEL funding. NMAU undertakes the obligation to ensure that the impact of the project on university life, reinforced research activities, enhanced role of entrepreneurship in the curriculum, awareness of the Centre's services among internal and external stakeholders will be as strong as it was planned. By this period the mechanisms of financial sustainability against generated profit, supported by decisions of Academic Council and/or orders of Rector, should be created and implemented enabling allocation of required funding and appropriate staffing levels.