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The “third mission” in the Arctic universities’ development strategies *

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Abstract. Currently, applying the “third mission” at universities is of relevance, since it also forms the basis of universities' activities along with education and science. Scientific understanding of this issue had been carried out by Russian and foreign scientists. The main components of the “third mission” are the commercialization of intellectual property, technology transfer, and innovation, the development of a university as an entrepreneurial structure, continuous education, social involvement, support for the development of regions, participation in the life of the local community, etc. The article analyzes the experience of applying the “third mission” on the example of universities located in the Arctic zone of the Russian Federation and some foreign Arctic universities. For this purpose, the documents defining the strategic development of two Russian (Northern (Arctic) Federal University named after M.V. Lomonosov and Murmansk Arctic State University) and five foreign Arctic universities (University of Copenhagen (Denmark), University of Oulu (Finland), the University of Iceland (Iceland), the University of Umeå (Sweden), and the Luleå University of Technology (Sweden). Specific forms and mechanisms used by universities are also analyzed. They contribute to the assessment of nature, characteristics, the degree of the “third mission” application carried out by universities.

Keywords: *mission, university, universities’ third mission, region, the Arctic, regional development.*

Introduction

The challenges of modern society pose new challenges to traditional social institutions that are under transformation, the search for new forms of activity and ways of interacting to achieve their development goals.

These institutions include universities that have become the subject of scientific discussions about new approaches to defining the mission of their existence.

Recognized experts in the field of strategic management M. Meskon, M. Albert and F. Hedouri define the purpose of the organization as “a clearly expressed reason for its existence” [1, Meskon M., p. 25]. P. Drucker clarifies that “the mission is complex, includes both external and internal guidelines for the company, expresses the essence of the business success to which it seeks” [2, P. Drucker, p. 31]. I. Ansoff says that “the mission embodies the philosophy and mission of the organization, the first — to determine the values, beliefs, principles that guide the team; and the second — the actions to be carried out to acquire the intended appearance” [3, Ansoff I., p. 44]. Vikhansky O.S. sees the organization’s mission in a broad and narrow sense. In a broad sense, this is

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a philosophy and a purpose, the meaning of the organization's existence, and in a narrow sense, a formulated statement as to why or for what reason an organization exists [4, Vikhansky O.S., p. 39].

However, according to most researchers, the mission of universities has its characteristics that must be considered when determining it. At the present stage, there is a search and description of new models of universities that are adequate to the current social, economic and political conditions.

These include the concepts of a research university, a university as a local scientific, educational, and cultural complex (a local university), a passionate university, an entrepreneurial university, and some others. Depending on the model of the university, its mission is understood differently.

E.g., the main task of a research university is the production of fundamental and applied research, the results of which lead to significant discoveries and the development of technology. The internal organization of these universities stems from the tasks of research and development, and science is in the first place in the priority of the activities (and the educational functions do not completely disappear).

The idea of an "entrepreneurial university", expressed by B. Clarke in his work "Co-building an entrepreneurial university: organizational ways of transformation" refers to its features strengthening of the control core; diversification of the financial basis of the university; expansion of the periphery of the university; stimulation of the academic core; wide dissemination and approval in the university community of entrepreneurial beliefs and values [5, Clark B., p. 57]. In their activities, business universities combine educational, research, and innovative and entrepreneurial activities. Professor at Stanford University, Henry Itskovitz, and Professor at the University of Amsterdam, Loiet Leydesdorf, proposed the concept of the Triple Helix, in which they included the state, the university, and business [6, Itskovitz G., p. 49]. According to the authors, universities play a leading role in this model, since they have the potential to produce new knowledge and research. In this regard, universities have another critical mission of entrepreneurship, incubation and the creation of companies.

The work of A. Delbanco [7], M. Barber, C. Donnelly, S. Rizvi [8], A. Cohen, K. Kisker [9], M.Keller [10], G. Rozowski [11], J. Salmi [12] and others is devoted to understanding the mission, goals and objectives of universities at the present stage. Discussions about the place and role of universities in current socio-economic conditions somehow lead to the understanding that in addition to the two "classical" missions of the university — educational and scientific, there is also a "third" one connected with the role of universities in the development of society.

The concept of the "third mission"

The definition of the "third mission" and its characteristics are also the subject of scientific disputes. Marhl M. and Pausist A. in their work "Methodology of the Third Mission of Universities" defines it as "a set of specific services based on actions and opportunities serving for the good of so-

ciety" [13, Marhl M., Pausist A., p. 7]. This definition, despite its rather general nature, it is possible to take as a basis for further analysis.

In the system of recognition of elements related to the "third mission" proposed by the PRIME OUE Project, eight criteria are singled out: human resources, intellectual property, commercialization of the results of individual and group research, production contracts, contracts with government agencies, participation in the decision-making process, involvement in social and cultural life, the results of knowledge transfer to society. Each criterion got formulated focus, fundamental indicators, and descriptors.

Montesinos, Carot, Martinez, and Mora identify three factors that underlie the "third mission": social, entrepreneurial, and innovative [14, Montesinos, Carot, Martinez, Mora, p. 26]. The social factor is an area in which it is not supposed to be a profit motive or an economic effect. It is an area of social services, university participation in the development of urban spaces, interaction with the local community, cultural environment, student activity. The business factor is associated with research under contracts with the state and business, commercialization of intellectual property, paid educational programs, and the use of university facilities on a commercial basis. The innovation factor involves the introduction of scientific developments of universities, consulting government agencies and government organizations.

The E3M project network specialists proposed a system of parameters that reflect the specifics of the "third mission" and relate it to types of activity, namely, "continuing education," "technology transfer and innovation," and "social involvement." "Continuing education" is an opportunity to get education for people of all ages during life, "technology transfer and innovation" implies the exchange of knowledge and technology, and "social involvement" associated with the non-profit interaction of the university and the regional (local) community.

The following characteristics of the "third mission" of the university are also highlighted by various authors: the generation, practical application of knowledge, and the gaining of resources (facilities, equipment) outside the academic environment¹; the development of a university as an entrepreneurial structure within the framework of the "triple helix" concept [15]; commercial application of research, patents, technology transfer, and in a broad sense — any activity in the direction of society [16]. It must be said that the understanding of the "third mission" is also connected with new approaches to understanding the essence of scientific knowledge. A group of authors proposed the concept of the "second type" of knowledge production (Mode 2 knowledge production): M. Gibbons, C. Limoges, H. Novotny, S. Schwartzman, P. Scott, M. Trow in "New Knowledge Production: Dynamics of Science and research in modern societies "[17].

A greater openness characterizes the science of the "second kind" (mode-2 science) concerning the changes taking place in society, more active participation in the production of knowledge of external actors, primarily business and the state. It strengthens the contextual dependence of scien-

¹ Jongbloed B. Seven Indicators for Mapping University regional Interactions. ENID PRIME Indicators Conference in Oslo, 26 28 May 2008. 9. Thorn, K., & Soo, M. (2006).

tific research and training programs and brings to a new level the contradiction between the scientific and social functions of the modern university [18].

When focusing on the social aspect of the “third mission” of the university, it is necessary to speak, first, about the problem of social involvement in the development of the area. Charles D. says that the assessment of the role of the university in the development of the local community is both philosophical and methodological. Universities are not institutions that are separately organized from a social system: they represent the interacting elements of a system, localized in space. From this point of view, universities are an integral part of local, national and global public systems, forming part of what is commonly called society [19, Charles D., c. 51]. Perfilyeva O.V. wrote about the forms of participation in public life, which belong to the “third mission” of universities. She identified the following [20, Perfilyeva O., p. 49]:

- participation through the provision of public access to their resources: museums, libraries, sports events;
- participation through the organization of “social services” for the population;
- participation through the organization of social and cultural events by research departments of universities, such as, e.g., holding exhibitions and expositions of urban development projects and other social projects;
- participation through the organization of training programs and training seminars for socially vulnerable groups;
- participation in the development and implementation of urban environmental development projects.

The scholar also examines several social forms of university activity, such as “examination of the socio-economic development of the region,” “interaction with trade union organizations,” “interaction within the framework of educational and social work.” V.A. Smirnov, L.A. Fadeeva, K.A. Pulinina, S.V. Golubev analyze various approaches to the integration of higher educational institutions into regional processes [21, p. 11]. The first one is the university as a platform for training specialists for the economy. In this case, the role of the university appears to be limited, dependent on the needs of the regional economy [for the labor resources of the Russian Arctic regions, see: 22, Zaikov K.S., Kondratov N.A., pp. 184–201]. The second one is based on the concept of lifelong learning university engagement. Here, universities act as a center of gravity for the local community, a place where a person comes at different stages of his life, to get a specialty or additional education, to take advanced training courses. The third one is based on the “entrepreneurial university” model, which involves the dynamic interaction of the university with the regional business community and the authorities in implementing joint economic and social projects. The fourth model is the concept of a “university involved in regional development” (regionally engaged university). It examines universities in connection to their regions, allows to sort the diversity of interactions of universities with the regional, local community, depending on external conditions, to identify and characterize the local environment of the university. The fifth model is based on the idea of the “third” (social) function of the university, formulated by D. Charles. Universities are an integral part of the society itself

and cannot exist separately from it; moreover, the universities themselves in the course of their activities form what can be called “the regional community.”

If we generalize and systematize various approaches to determining the role of universities in the development of regions, we can single out the following key areas:

- The University is a significant employer who provides jobs for residents of the region, pays taxes, solves social problems of residents (e.g., it provides kindergarten with places).
- The University trains personnel for the economy of the area. At the same time, if the area can formulate a state order for training specialists, the university can adjust the structure, content, and technology of implementing educational programs, considering the requirements of employers, the forecast of the labor market, and trends in socio-cultural and economic development. It will also be a mechanism for securing personnel in the region since such specialists will be able to find the necessary work quickly.
- The scientific and human potential of universities allows them to become a center for strategic planning of regional development, an expert platform for developing critical activities for sectors of the economy and the social sphere, and specific management decisions.
- The University as a center for innovative and technological development of the region has the potential of commercializing the results of intellectual activity of scientists, which may be useful for the regional economy, enterprises, and organizations. It can also manifest itself in technology transfer, the creation of science parks, incubators, the development of a system of patenting inventions.
- As part of the urban environment, the university becomes a participant in the transformation process, erecting new buildings and structures, ennobling the campus, as well as the surrounding area, county, or city.
- The university can become a center of social and cultural life in the region, holding significant events and events on its platform, becoming a point of attraction and meeting the educational and cultural needs of local communities, interacting with non-profit public organizations, developing a volunteer movement.
- The University provides social services to residents of the region, including within the framework of the concept of “lifelong education,” implementing educational programs, refresher courses, organizing legal, financial, and other consultations for people of all ages, from preschoolers to senior citizens.
- The University is an essential tool for the socialization of young people and, as a result, forms the worldview, value orientations and norms of behavior of the inhabitants of the region. University graduates, being at critical managerial positions in regional authorities, economic sectors, business, and social spheres, in their activities rely in large part on those business and human relations models that were laid down during their university studies. Universities shape the shape of the future regional elite.

At the same time, an efficiently organized interaction with the region enhances the potential of the university itself — it allows it to attract additional material resources at the expense of income from educational and scientific activities, increases the prestige of the university among residents of the region, which later gives an influx of additional applicants, allows to produce specialists who are better prepared for work in the economy of the area, thereby increasing the “quality” of the diploma.

Of course, each university has its approach to defining its role in regional development. It is impossible not to consider the realities of the modern system of higher education, which presup-

poses the existence of educational institutions of higher education of national, federal, national research universities and supporting universities.

For the first group, the priority is to address the strategic objectives of the development of macroregions or the state, and their activities are not directed to a specific subject of the Federation. On the one hand, this creates a contradiction, and on the other hand, it allows participating in the development of the region in which the university is geographically located, at a higher level.

In our study, we consider the experience of implementing the “third mission” at the example of universities located in the Arctic zone of the Russian Federation and several foreign universities in the Arctic.

The specific geographic location and the specific educational, scientific tasks that unite these universities determine the need for their participation in solving global and regional problems related to the Arctic region, and dynamic interaction with the local community and authorities.

According to Presidential Decree No. 296 “On Land Territories of the Arctic Zone of the Russian Federation”, territories of the 4 subjects of the Russian Federation were fully included in the Arctic zone of the Russian Federation: the Murmansk region, the Nenets, the Yamalo-Nenets and the Chukotka autonomous districts, and 16 municipalities, including 5 urban districts and 11 municipalities at the district level from the Arkhangelsk region².

Educational institutions of higher education, such as the Northern (Arctic) Federal University named after M.V. Lomonosov, Northern State Medical University, Murmansk Arctic State University, Murmansk State Technical University.

In addition to Russia, the United States, Canada, Sweden, Norway, Denmark, Finland, and Iceland are also among the subarctic (circumpolar) states. The Arctic universities of these countries of the circumpolar region are 32 universities and colleges.³ The importance of educational and scientific institutions for the economic development of the northern and Arctic territories was in the focus of the studies by A.M. Gorokhov, K.S. Zaikov and others [23, Gorokhov A.M., Zaikov K.S. et al, pp. 485–497; 24, Zaikov K.S., Kalinina M.R. et al., pp. 59-77].

For our study, two Russian and five foreign universities were selected, information from open sources (university websites) was analyzed, program documents (strategies and development programs) of educational institutions were studied.

The experience of the implementation of the "third mission" at the Arctic universities

Northern (Arctic) Federal University Lomonosov was created by decree of the President of the Russian Federation on October 21, 2009, and today has more than 15,000 students.

The mission of the university is to create an innovative scientific and personnel base for the intellectual development of the North of Russia and the Arctic. The University's Development Pro-

² О сухопутных территориях Арктической зоны Российской Федерации / Указ Президента Российской Федерации от 02.05.2014 г. № 296 [Presidential Decree No. 296 “On Land Territories of the Arctic Zone of the Russian Federation” 02 May 2014]. URL: <http://kremlin.ru/acts/bank/38377> (Accessed: 04 October 2018). [In Russian]

³ The University of the Arctic. URL: <https://www.uarctic.org/> (Accessed: 03 October 2018).

gram for 2010–2020, approved by a decree of the Government of the Russian Federation on August 19, 2015, designated “scientific and personal support for the protection of Russia's geopolitical interests in the Arctic” a strategic goal, “forming an intellectual center that promotes development of the Arctic territories of the Russian Federation”⁴. In this case, the mechanism for its implementation is the “integration of education, science, and production, strategic partnership with business and the international community.”

Another strategic task in the context of the “third mission” is “educating patriotic youth ready for the development of the Arctic territories, understanding the importance and role of the Russian Federation in the history and development of the Arctic and global prospects for the development of the Arctic zone of the Russian Federation.”

Thus, the sphere of social responsibility of the university is not only the area of its location but also the vast territory of the Arctic zone of the Russian Federation [25, Bougaenko O.D., Vorozhtsova L.A., etc.].

The university has united the most extensive educational organizations of the Arkhangelsk Oblast, becoming the center of education and science in the area. Now it builds cooperation relations with government, industry, and business, non-profit organizations and the local community.

In 2011, the Arkhangelsk Regional Assembly adopted the law “On state support of the Northern (Arctic) Federal University.” Its purpose is “research and staffing of the socio-economic development of the Arkhangelsk Oblast, solving strategic tasks on the growth and development of the Arctic.”

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Thus, the sphere of social responsibility of the university is not only the region of its location but also the more extensive territory of the Arctic zone of the Russian Federation [25, Bougaenko O.D., Vorozhtsova L.A., et al.].

The university has united the largest educational organizations of the Arkhangelsk region, becoming the key center of education and science in the region, now it builds cooperation relations with government authorities, industry and business, non-profit organizations and the local community.

In 2011, the Arkhangelsk Regional Assembly adopted the law “On state support of the Northern (Arctic) Federal University,” the purpose of which is “research and staffing of the socio-

⁴ Programma razvitiya FGAOU VO “Severnyj (Arkticheskij) federal'nyj universitet imeni M.V. Lomonosova” na 2010-2020 gg. [The program of development of the Federal state educational institution “Northern (Arctic) Federal University named after M. V. Lomonosov” for 2010-2020]. URL: https://narfu.ru/upload/medialibrary/df9/1604_r_programma-razvitiya-safu.pdf (Accessed: 03 October 2018). [In Russian]

economic development of the Arkhangelsk region, solving strategic tasks on the development and development of the Arctic.

The university is an important actor in the social development of the area, while the main driver of this development is student youth. Student groups and volunteers take an active part in local community affairs.

Thus, annually during the “Polar Desant” event, participants provide labor assistance to socially unprotected residents of remote municipalities. The volunteer center of NArFU has programs for various social groups. E.g., it deals with consultations on social and legal issues for orphans and children left without parental care, and young families as well as assistance to orphanages, war and labor veterans.

The University’s social infrastructure, such as the “Zorenka” kindergarten, the “Burevestnik” Stadium, the Intellectual Center, etc. provide social services to the residents of Arkhangelsk. E.g., the university kindergarten solves an important social problem of providing services for pre-school education for 190 children. Also, the Resource Center for Inclusive Education, the University’s Museum of Entertaining Sciences, and a “legal clinic” provide socially essential services.

Since 2016, the University has launched a project “People’s University of Silver Age,” with courses on financial, legal, housing, computer literacy for elderly people for their inclusion in an active social life. The university participates in the program “Improving the financial literacy of the population and the development of financial education in the Arkhangelsk Oblast in 2014–2019”.

In 2016, the university became the winner of the competition for the creation of university centers of innovation, technological and social development. In this application, key initiatives are: development of new and modernization of existing successful educational programs, modules, resources in priority areas of economic development of the area and the Arctic zone of the Russian Federation; creation of a comfortable and developing spatial and socio-cultural learning environment, creative activities; innovative technological production; formation of competencies in social and technological entrepreneurship; assistance for talented students; programs of continuing education; improving information, financial and legal literacy of citizens by expanding the range of additional professional education programs.

Murmansk Arctic State University was founded on October 13, 2015, by renaming the FSBEI HE “Murmansk State Humanitarian University” and is currently training about 6,000 students. In April 2017, it received the status of a local support university, thereby denoting a priority task of assisting the socio-economic development of the Murmansk Oblast.

The University’s Development Strategy until 2025 reflects several tasks related to the “third mission.” It is, in particular, “to become a regional development driver that actively influences the economic situation in the territory and the quality of local community due to the repro-

duction of the creative class and the direct creation of innovative businesses.”⁵ The document also reflects such aspects of the “third mission” as lifelong education, commercialization of scientific research, the creation of small and medium-sized innovative enterprises and organizations, the provision of consulting services and expert support on the problems of the innovative development of the social-educational environment.

The university plans to develop local communities, which consist in the social design of the urban environment, the positioning of the university as one of the centers of the youth social and cultural life of the region, and the participation of the university in shaping the brand of the Murmansk region.

In the context of the functions of the reference university, MASU seeks to take the position of a regional expert on territorial development, the focus of organizing effective interaction between educational and cultural institutions, the administration, local enterprises, the professional community and residents of the region.

In addition, creative, cultural and health centers of the university can be used not only by its students and staff but also by representatives of regional communities, due to which informal interpersonal communications will be maintained, a favorable image of MAGU will be formed as a center of social and cultural processes in the city and region.

It is planned to create a cluster of northern design — a professional network of interdisciplinary teams (association of designers, innovative territorial cluster based on the university, business), as well as the Center for Innovative Business Ideas and Social Initiatives (Coworking-51), whose goal is to help inventors and novice entrepreneurs in the implementation of the project in production.

Today, the university has established partnerships with industrial enterprises of the region: PJSC Novatek, Kirov branch Apatit JSC, TGC-1 PJSC, AtomEnergoRemont JSC, PodzemSpetsmontazh LLC, and others. Cooperation is carried out in the field of scientific research, education, vocational guidance activities within the framework of framework agreements, agreements on the conduct of practices, economic agreements.

Cooperation in the socio-humanitarian sphere is implemented in the form of scientific and practical developments, creative projects to create and develop a comfortable environment. MAGU is a member of the tourism and recreation cluster under the Ministry of Industry and Entrepreneurship Development of the Murmansk region.

The University is actively involved in the formation of regional development programs. MAGU representatives are members of the project office for the development of a program for the development of the Kola support zone of the Russian Arctic, the Economic Council under the Governor of the Murmansk Region, and the relevant coordination and expert councils of the OIV

⁵ Strategiya razvitiya FGBOU VO “Murmanskij arkticheskij gosudarstvennyj universitet” do 2025 goda. [The development strategy of the “Arctic Murmansk state University” until 2025}. URL: <http://www.masu.edu.ru/files/admin/strategiya-razvitiya-masu.pdf> (Accessed: 03 October 2018).

Murmansk Region. The university is a member of the North Chamber of Commerce and the Union of Industrialists and Entrepreneurs of the Murmansk region.

The university has a youth center for technological and social entrepreneurship, a counseling center for socially-oriented non-profit organizations, and a center for health protection that provides services, including for residents of the region.

The University of Copenhagen (Denmark), founded in 1479, currently trains more than 39,000 students.

University development strategy "Talent and cooperation. Strategy 2023" ("Talent and collaboration. Strategy 2023") provides a fairly wide range of areas related to the "third mission." The document states that "cooperation between the university and the society, for example, between education and practice, and between research and employers, is of equal importance."⁶ One of the essential tasks of the university is the need to "carry knowledge for the benefit of society, the complex development issues of which constantly challenge us." The University is responsible for providing the necessary solutions for the development of society. Based on its active scientific communities, the university seeks to use its academic resources to solve the problems of Denmark, Europe, and the Arctic region.

As one of the goals of the university's strategic development, "cooperation and public commitment at the national and global level" is indicated. The activities of the university should bring tangible benefits to society in solving problems in migration, health care, and lifestyle, demography, climate, and global conflicts, as well as major social problems identified in the "UN Goals sustainable development. The university seeks to influence social trends, as well as to form a culture, to take part in public debates, to involve the population in scientific research. Also, the university plans to develop a "learning throughout life" system.

Another direction of the implementation of the "third mission" of the University of Copenhagen is the commercialization of research and technology transfer. The university and external partners enter into licensing agreements based on inventions made at the University. It is a way to ensure that these inventions will benefit society in the best possible way. This work is carried out by the Technology Transfer Bureau, which organizes the interaction between the inventors of technology and interested parties. On the university website, you can find a catalog of inventions that have been made at the university lately.

The university cooperates with external partners in the field of scientific research, while it can be of two types: joint research funding and customized research. The University of Copenhagen provides researchers and companies with offices, specialized equipment, labs, databases, and test facilities.

E.g., you can get access to the Biobank database of the University of Copenhagen for experimental research, labs of nanotechnology, stable isotopes in the soil, plants, and air, tissue culture, and some others. Entrepreneurs and small businesses can rent offices or lab facilities at a universi-

⁶ University of Copenhagen. URL: <https://www.ku.dk/english/> (Accessed: 02 October 2018).

ty for a limited time. Small startups that come out of the university's research environment can locate next to their respective core sites and research partners. Associations, organizations, institutions, and companies can rent premises for events, seminars or conferences on an hourly basis. The event should be non-profit and have a connection with the activities of the university.

The Finnish University of Oulu was founded in 1958. The university has about 16,000 students, and in its Strategy 2016–2020 ("University of Oulu Strategy 2016–2020") it also pays considerable attention to the "third mission." Emphasis is placed on "contributing to the solution of some of the most severe global problems, incl. the sustainable use of resources, responsible business, human well-being and health throughout life, the development and development of intelligent systems and services, environmental threats."⁷

At the same time, the focus is on the problems of the Arctic region (mineral resources, fresh water, global warming, climate change, the residence of small indigenous peoples, etc.), including the Arctic Ocean.

Also, as one of the priorities is the promotion of innovation and the culture of start-ups based on research. Entrepreneurial training programs are in university curricula, and the university seeks to improve the interaction between external stakeholders, companies and the community to commercialize scientific study carried out in the university.

The University of Oulu is one of the most prominent innovative universities in Finland, as evidenced by more than 60 inventions and 60 companies that emerge from research projects every year. In its research and educational activities, the university contributes to the development of entrepreneurship and the creation of research and research business. As an example of such startups, Cerenion, who developed a practical method for measuring brain function in patients with intensive therapy, Chain Antimicrobials, developed a medical device (catheter) for the treatment of nosocomial infections, KNL Networks, advanced communication systems using high-frequency ground radio, e.g., for shipping. The University also offers technologies that can be licensed and subsequently applied in various industries.

To stimulate innovation, the university organized a creative space for Tellus Innovation Arena, as well as an entrepreneurial center for Business Kitchen, which is a co-working space for activating action and opening new opportunities in business and life. It provides programs, activities, and tools to support entrepreneurship and business development, and promotes networking and collaboration between students and companies. Students can earn loans by participating in Business Kitchen programs such as the Avanto Accelerator to create new businesses, Demola to jointly create innovations with companies, and the International Business Corridor to help companies enter new markets.

The "third mission" is widely represented in the Strategy of the University of Iceland for 2016–2021. ("Strategy of the University of Iceland 2016–2021"), founded in 1911 and teaching more than 13,000 students.

⁷ University of Oulu. URL: <http://www oulu.fi/university/> (Accessed: 02 October 2018).

The Strategy states that “the University of Iceland plays a crucial role in the development of Iceland as a knowledge-based society.”⁸ The university is a responsible member of a society that promotes equality, diversity, and sustainability. Research and training programs address the complex challenges facing the world today, and that the university actively participates in the life of Icelandic society and culture.

The creation of new knowledge and its application are vital to improving the quality of life and supporting a prosperous society. The University of Iceland is keen to play an active role in society, industry, and culture. Special attention is paid to disseminating research and innovation results in various ways, promoting a shared understanding of science, using expert knowledge to solve problems of the 21st century, and facilitating the discussion of current social issues.

According to the Strategy, the University is a platform for developing new ideas and active collaboration between researchers, students, industry, institutions, and society.

The importance of using scientific mass media to encourage interest in and understanding of science, support its application and stimulates diverse scientific cooperation. Icelandic University is in favor of an ongoing dialogue with the public and experts on topical social issues.

An example of a joint work of the university and local authorities is the Science Park of the University of Iceland, which is 94.6% owned by the university, and by 5.4% — the municipality of Reykjavik. It was created to strengthen cooperation with companies, research institutes on innovation, as well as to create conditions for innovators.

The university has established the Institute of Research Centers, which is a place of cooperation of the university with local authorities, institutions, enterprises, and individuals in rural areas of the country. Its objectives are to meet the demand for research and education in Iceland, to provide convenience to research projects related to local environmental and social problems, to increase access to education in rural areas. Currently, there are seven such centers in different parts of the country. They have a positive impact on the local society, encouraging young researchers and allowing them to make a research career outside the capital, directing research activities and funding to rural areas.

The university implements a wide range of programs aimed at meeting the needs of the local community, provides its opportunities for joint projects with active citizens and organizations. Examples: the Biophilia project (an interdisciplinary project in natural sciences, art and technology aimed at attracting children's creativity), the Reykjavik Children's Culture Festival, the design and programming competition for elementary school students, the First Lego League, the Knowledge Train (acquaintance young people with science through a diverse program for the whole family), etc.

Another example of the University performing its “third mission” is the annual series of lectures called “University in Society.” The purpose of the lectures is to attract the public and specialists to discuss current social issues. A wide range of topics is considered, incl. the well-being of

⁸ University of Iceland. URL: <https://english.hi.is/> (Accessed: 02 October 2018).

children and young people, anxiety and psychological health, the role of upbringing and positive communication in the development of children. Lectures are intended for the general public, parents, young people and children, as well as for professionals, politicians at the municipal and national levels, students and university staff. In this way, the university seeks to ensure that the experience of teachers can be used to support Icelandic families and society, as well as to increase public confidence in the university and awareness of the various scientific work carried out at the University.

Umeå University (Sweden) has a history since 1965 and has more than 28,000 students. In the program document of the university “Umeå University 2020 Vision and objectives”, “the third mission” is the development and renewal, on the one hand, of “a stable democratic society through its social obligations,” on the other — “competitive industry and commerce.” The university emphasizes the adherence to the principles of social responsibility and the importance of cooperation with industry and commerce, the public sector.” Lifelong learning and promoting the spread of knowledge in society are also highlighted as priorities.

Interaction between the university and partners from industry and public structures led to the creation of the Uminova Innovation AB division. Its main goal is to organize the technology transfer, the introduction of innovations developed at the university into production and business, and the promotion of the exchange of knowledge, ideas, and experience between the university and industries.

In this division, an assessment of research results from commercial viability takes place, and the researcher is assisted in passing the necessary procedures for implementing or creating his/her own company.

In a somewhat similar way, the “third mission” is designated at another Swedish university located in the Arctic zone — the Luleå University of Technology, founded in 1997 and training more than 6,500 students. In its program “Strategy and vision 2020”, it says that the university is working to “build an attractive, sustainable society,” participates in public debates and actively contributes to the formation of a knowledge base for political decision-making.

The university provides opportunities to use its infrastructure in the interests of the local community. Thus, the research infrastructure, as well as the consultations of technical experts can be used for research and development, prototyping and pilot production, calculation of the economic justification of projects, obtaining licenses and patents.

For business and industry, the university offers various options for cooperation: analyzing the needs of the company and the possibility of meeting them using the resources of the university, searching for talented students willing to work in the company, solving specific production problems by students and university staff, expert business process assessment.

Conclusion

The analysis allows us to draw the following conclusions. The issues of the “third mission” are visible in the strategic documents of most universities in the Russian Federation and foreign countries in the Arctic. A summary table of the reflection of the “third mission” in the university’s strategic documents is in the Appendix. The main directions of the implementation of the “third mission” of the Arctic universities are to contribute to solving global and regional problems, incl. the problems of the development of the Arctic; promoting regional development; lifelong education; commercialization of research and technology transfer; providing university opportunities for the needs of the local community; increasing the level of knowledge in society.

The main mechanisms for the implementation of the “third mission” of the Arctic universities are the conclusion of cooperation agreements with regional and municipal authorities; conclusion of cooperation agreements with enterprises and organizations of the region; the provision of facilities and infrastructure of the university for conducting scientific research, social and cultural events for organizations and representatives of the local community; consulting and support of innovation and business projects by university specialists; participation in public debates on the most critical issues of the life of the region and the country; social projects by students and staff.

Assessing the scope of efforts to implement the “third mission,” it can be noted that universities in the Arctic zone of the Russian Federation are more focused on solving specific problems of the development of the Arctic, while most foreign universities see their task in solving global problems.

Also, Russian universities, as a rule, formalize their relations with regional authorities, enterprises, and organizations by signing relevant agreements. In foreign universities, interaction with the residents of the municipality is more developed — the location of the university, which can use the university infrastructure (incl. the scientific one) directly, without the mediation of any organizations.

It may be noted that there is a developed system of technology transfer and the commercialization of scientific research in foreign Arctic universities, while in Russia this aspect of the “third mission” is in its infancy.

The characteristics of the “third mission” activities at the Arctic universities are the expansion of social responsibility to the wider borders of the Arctic macro-region and the presence of specific areas for the “third mission” activities, such as participation in joint projects on environmental safety in the Arctic, preservation of indigenous peoples of the North, health-saving programs.

Thus, it is possible to note the tendency to expand and diversify the directions of implementation by both Russian and foreign Arctic universities of their “third mission,” increasing the importance of effective interaction with the main stakeholders (government, business, local community, etc.), social responsibility development of the Arctic macro-region.

Appendix

University (country)	Reflection of the “third mission” in the university’s strategic documents		
	Name of the document	Directions of the “third mission” activities, reflected in the document and their forms	Main mechanism for the “third mission” activities
Northern (Arctic) Federal University Lomonosov (Russian Federation)	“The development program of FSAEI of HE “Northern (Arctic) Federal University named after M.V. Lomonosov” for 2010-2020”.	<ul style="list-style-type: none"> • Contribute to the solution of global and regional problems, including the problems of Arctic exploration • Promoting regional development • Lifelong education • Commercialization of research and technology transfer • Providing university’s opportunities for the needs of the local community. 	<ul style="list-style-type: none"> • cooperation agreements with regional and municipal authorities; • cooperation agreements with enterprises and organizations of the area; • use of premises and infrastructure of the university for scientific research, social and cultural events by organizations and representatives of the local community; • consultation and support of innovation and business projects by university specialists; • participation in public debates on the most important issues of the life of the area and the country; • social projects of students and staff.
Murmansk Arctic State University (Russian Federation)	“Development Strategy of the FSBEI of HE “Murmansk Arctic State University”	<ul style="list-style-type: none"> • Contribute to the solution of global and regional problems, including the issues of the development of the Arctic • Promoting regional development • Providing university facilities for the local community • Lifelong education • Commercialization of research and technology transfer. 	<ul style="list-style-type: none"> • conclusion of cooperation agreements with regional and municipal authorities; • conclusion of cooperation agreements with enterprises and organizations of the region; • provision of premises and infrastructure of the university for conducting scientific research, social and cultural events for organizations and representatives of the local community; • consultation and support of innovation and business projects by university specialists; • participation in public debates on the most critical issues of the life of the region and the country; • implementation of social projects by students and staff.
University of Copenhagen (Denmark)	“ <i>Talent and collaboration. Strategy 2023</i> ”	<ul style="list-style-type: none"> • Contribute to the solution of global and regional problems, including the difficulties of Arctic exploration • Lifelong education • Increase knowledge in society • Commercialization of research and technology transfer • Providing university opportunities for the needs of the local 	<ul style="list-style-type: none"> • the provision of facilities and infrastructure of the university for scientific research, social and cultural events for organizations and representatives of the local community; • consultation and support of innovation and business projects by university specialists; • participation in public debates on the most critical issues of the life of the region and the country.

		community.	
University of Oulu (Finland)	<i>"University of Oulu Strategy 2016–2020"</i>	<ul style="list-style-type: none"> • Contribute to the solution of global and regional problems, including the difficulties of Arctic exploration; • Innovation and entrepreneurship; • Commercialization of research and technology transfer. 	<ul style="list-style-type: none"> • consulting and support of innovative and business projects by university specialists; • participation in public debates on the most critical issues of life in the region and country.
University of Iceland (Iceland)	<i>"Strategy of The University of Iceland 2016-2021"</i>	<ul style="list-style-type: none"> • Promoting regional development • Providing university opportunities for the needs of the local community • Increase knowledge in society. 	<ul style="list-style-type: none"> • providing university premises and infrastructure for conducting scientific research, social and cultural activities for organizations and representatives of the local community; • consultation and support of innovation and business projects by university specialists; • participation in public debates on the most critical issues of the life of the region and the country; • social projects of students and staff.
Umeå University (Sweden)	<i>"Umeå University 2020 Vision and objectives"</i>	<ul style="list-style-type: none"> • Promoting regional development, including the Arctic • Lifelong education • Innovation • Interaction with industry, trade, public sector • Increase knowledge in society. 	<ul style="list-style-type: none"> • the provision of facilities and infrastructure of the university for scientific research, social and cultural events for organizations and representatives of the local community; • consulting and support of innovation and business projects by university specialists
Luleå University of Technology (Sweden)	<i>"Strategy and vision 2020"</i>	<ul style="list-style-type: none"> • Contribute to addressing global and regional issues • Providing university opportunities for the local community. 	<ul style="list-style-type: none"> • the provision of facilities and infrastructure of the university for scientific research, social and cultural events for organizations and representatives of the local community; • consulting and support of innovation and business projects by university specialists.

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