This article focuses on the cooperation between the constituent entities of the Northwestern Federal District of the Russian Federation and the Baltic countries (Finland, Estonia, and Norway) in the field of innovations at national and regional levels, as well as at the level of corporate cooperation. The author reviews successful implementation of innovation projects within cross-border and transnational cooperation programmes. The most significant projects focus on the development of information and communications technologies in healthcare, the development of networks uniting innovation centres in the Baltic Sea region, and the transnational network of business incubators in the Baltic Sea region.

The author identifies promising areas of cooperation between North-West Russia, Finland, Norway, and Estonia in the field of innovations, including telecommunications, information and space; biological, environmental and nanotechnologies; software, medicine, education, culture, energy efficiency and ecological construction, as well as the development of creative industries. The article pays attention to large-scale national projects, such as “St. Petersburg Corridor — Two Model Open Innovation Platform” and “Partnership in commercialization of Russian innovations”.

Key words: North-West Russia, Finland, Estonia, Norway, cooperation, innovations, innovative projects

“Innovation union” is one of the most advanced initiatives of the Europe 2000 strategy and is called to facilitate the process of turning innovative ideas into innovative products and services and ensure the competitiveness of the European Union. Thus, it is planned to increase funding of research and innovations in European and develop research cooperation with third countries [18]. If the intensity of Russia-EU transboundary connection increases under the condition of innovative infrastructure development, one can expect that the objectives formulated in the initiative will be achieved.
Cooperation between North-West Russia and Finland in the field of innovations

Russian-Finnish cooperation in the field of innovations is comprised by the interaction process taking place at three levels: national, regional, and that of individual enterprises. In general, it focuses on the modernisation and development of innovative sector.

At the national level, cooperation is carried out on the basis of a number of bilateral agreements on cooperation in the field of innovations and new technologies (at the moment, there are approximately 90 international and intergovernmental agreements in force that regulate almost all spheres of interaction). The innovative group under the Finnish—Russian Intergovernmental Commission for Economic Cooperation, which annually considers new initiatives and supports research on new potentially innovative industries, serves as an innovative forum. For the acceleration of joint development of innovations and their commercialisation, a project under the working title of “Commercialisation of Russian innovations” was launched in autumn 2010. The project serves as an instrument of turning innovations into business; it was developed by the Finnish Ministry of Trade and Industry and FinNode1; it is funded by the Finnish Ministry of Foreign Affairs and is implemented by the Lappeenranta Innovation company. The project places emphasis on information and communication technologies, software, and nano- and biotechnologies [2].

At the regional level, the cooperation develops on the basis of bilateral agreements between the administrations of the constituent entities of the Russian Federation and Finnish regions, as well as in the framework of the Baltic Sea Region transnational cooperation programme for 2007—2013 and three cross-border cooperation programmes for 2007—2013: Kolarctic, Karelia, and South-East Finland — Russia.

In the framework of five application calls within the Baltic Sea Region programme, 83 projects have been approved [13]. Within the Innovation cluster, 26 projects are being implemented [14], including those, where Russian organisations participate as associate partners (see table).

As of today, 13 projects have been approved within the Kolarctic cross-border cooperation programme [24], a number of which contain an innovative component, for instance, “Kolarctic IT Education, Networking, Partnership and Innovation”, which aims to develop and enhance the competitiveness of the region in the field of information and communication technologies and places emphasis on telemedicine, and “Coastal environment, technology and innovation in the Arctic”, which aims to introduce innovative ideas into solutions to environmental problems in the Barents Sea region. The projects bring together partners from Sweden, Norway, Finland, as well as Saint Petersburg National Research University of Information Technologies, Mechanics and Optics, Arkhangelsk State University of Technology, Northern (Arctic) Federal University, and the RUSSOFT association [28] (within the “Kolarctic IT Education, Networking, Partnership and Innovation” project) and Murmansk State University of Technology, Murmansk

1 FinNode is a joint global network of innovative centres.
Marine Biological Institute of the Kola Research Centre of the Russian Academy of Sciences, N. M. Knipovich Polar Research Institute for Marine Fisheries and Oceanography, Arkhangelsk State University of Technology, and Institute for Northern Industrial Ecology [26] (within the second project).

In April 2012, as a result of the first and second calls of the “South-East Finland-Russia” cross-border cooperation programmes, 32 projects were approved [30]. Among the projects containing an innovative component, one can mention the following ones:

1. “Innovation and Business Cooperation”. The project is aimed at the development of cooperation in the sphere of innovations between Russian and European universities and research structures, an increase in the number of cooperating universities from Russia and the EU, and better opportunities for the development of innovative companies and cooperating regions through introducing new products and services. The project partners are Wirma Lappeenranta (the principal partner is Finland), the Committee for Economic Development, Industrial Policy, and Trade (Saint Petersburg), Saint Petersburg Committee on IT and Communication, Saint Petersburg Information and Analytical Centre, Saint Petersburg State University of Economics and Finance, Saint Petersburg State Polytechnic University, Saint Petersburg State University of Aerospace Instrumentation, M. A. Bonch-Bruevich Saint Petersburg State University of Telecommunications, Saint Petersburg National Research University of Information Technologies, Mechanics, and Optics, Lappeenranta University of Technology, Kouvola Innovation Ltd (Finland), Miktech Ltd (Finland), Aalto University (Finland) [27].

2. “Arctic Materials Technologies Development”. The project aims to expand and improve the cross-border cooperation between the leading research centres and industrial companies working on metal technologies and structural materials in the Arctic conditions. The project focuses on shipbuilding, offshore platforms, and gas pipelines. The project partners are Lappeenranta University of Technology (Finland, the principal partner) and the Central Research Institute for Structural Materials (Saint Petersburg) [25].

Among the projects approved within the Karelia cross-border cooperation programme (a total of eleven projects were approved in the first call [23], one can mention the following ones:

1. "Complex development of regional cooperation in the field of open ICT innovations". The project aims to develop innovative principles and infrastructure through creating a network of laboratories and centres of the Open Innovations Association FRUCT thus helping to attract talented people into the region. The project partners are Petrozavodsk State University (the principal partner) and the University of Oulu (Finland) [21].

2. "Green cities and settlements — Sustainable spatial development in remote border areas". This project aims to contribute to the beautification of cities and towns in order to mitigate damage to the environment. The project partners are the University of Oulu and its NorTech Oulu branch (earlier the Arctic Technology Centre) (the principal partner is Finland), Karelian Research Centre of the Russian Academy of Sciences (Petrozavodsk), Lönrot Institute, Kajaani University Consortium, University of Oulu (Finland), Karelain Energy Efficiency Centre (Petrozavodsk), Kainuu regional administra-
An analysis of the partners’ activities in implementing projects with innovative components shows considerable mutual interest of Finland and Russia in cooperation in the field of innovations. The principal platform for international cooperation in this sphere is the Karelia Euroregion; almost every fourth project is aimed at the application and development of innovations as instruments to solve problems of cross-border territory development.

At the individual interaction level, Russia and Finland cooperation in the fields of energy, “green” economy, telecommunications, information, space and nanotechnologies, medicine, and education. Today, Finnish companies are operating in Saint Petersburg, Moscow, the Rostov, Tver, Moscow, Leningrad, and Serdlovsk regions [9].

The current achievement of fishing farms operating in the Republic of Karelia and other cross-border regions apply Finnish technologies of trout breeding.

As to plant cultivation, Russia has adopted the Finnish technology of vegetable cultivation, which decreases the labour intensity of production four-fivefold. It is also planned to develop cooperation in the fields of plant and vegetable cultivation and biotechnologies [3].

Cooperation agreements concluded at national, regional, and corporate levels form an efficient infrastructure of cross-border cooperation in the field of innovations. The promising areas of further development of Russian-Finnish cooperation are energy efficiency and ecological construction, nanotechnologies and creative industries, as well as the fields where both Finland and Russia demonstrate competitive advantages: nanotechnologies, space, power engineering, shipbuilding, new materials, optoelectronics, as well as the whole complex of Arctic technologies [8].

**Cooperation between North-West Russian and Estonia in the field of innovations**

In the border regions of Russia (North West of the country in this case), a number of projects focused — to a certain degree — on innovative development have been implemented in collaboration with Estonia and other countries of the Baltic region.

In the framework of the Baltic Sea Region neighbourhood programme within Interreg III Estonia-Latvia-Russia (North), five projects with innovative components — among them the project “Cluster development and B2B internationalization in Estonian-Russian transborder regions” aimed at the identification of company groupings, including those applying innovative technologies, and detecting opportunities for the development of transboundary economic clusters in North-East Estonia and North-West Russia — were implemented in 2004—2009. The Russian partners include the Committee for External Relations of Saint Petersburg, Ivangoled Centre for Sustainable Development, the Administration of the Slantsy district municipality (Leningrad region), the Administration of the Kingisepp district (Leningrad region). The Estonian partners include the administration of Kohtla-
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Järve, the city administration of Sillamäe, the Association of Entrepreneurs of the Narva region [12].

The projects implemented by Russian and Estonian partners in the framework of the Baltic Sea Region transnational cooperation programme for 2007—2013 are presented in the table.

Cross-border cooperation in the sphere of innovations and technology development between the Northwestern federal district of Russia and Estonia is also implemented in the framework of the Pskov-Livonia Euroregion. The basic areas of cross-border cooperation of the Pskov region in the framework of the Euroregion include cooperation in the field of ecology and environmental protection technologies, culture and education, and the promotion of business activities in border regions [1].

When considering the mechanisms and tools of cross-border cooperation between Estonia and Russia, one cannot but mention a rather active Russian-Estonian international organisation — the Estonian-Russian Chamber of Businessmen (ERCB). In the framework of cooperation, one of the main avenues of ERCB’s activity is support for the introduction of new technologies and research achievements into production at enterprises located in the border regions of Russia and Estonia. The cooperation of ERCB with Russian regional chambers of commerce and industry gives a major boost to cross-border business; business contacts with international partners are being established, information exchange and transfer of innovative technologies is being carried out in different spheres [10].

The cross-border cooperation between the Leningrad region and Estonia is localised on a rather small territory consisting of the Kingisepp district, Ivangoord, and the Slantsy district of the Leningrad region. Despite its importance for the Leningrad region, it does not claim the status of a driver of the regional and economic social development. The undisputed leader in cross-border cooperation with Estonia in North-West Russia is the Pskov region. This region is home to highly active regional associations, educational and research institutions, business organisations, and municipalities.

Cooperation between North-West Russian and Norway in the field of innovations

At the national level, the legal framework of Russian-Norwegian trade and economic relations is constituted by the Agreement on Trade and Economic Cooperation of March 26, 1996, which governs the activity of the Intergovernmental Russian-Norwegian Commission on Economic, Industrial, and Scientific-Technical Cooperation. The commission is the principal bilateral body involved in the development and implementation of agreements between Russian and Norwegian governments and industrial and regional bodies [4].

A review of recent summits with Russian and Norwegian participation shows a growing interest in bilateral and multilateral cooperation in the field of innovations. Both parties admit that there are significant potential, as well as important growth points, in the key industries and the field of innovation development. It is planned that international cooperation in this field will be developed on the basis of efficient innovative technology exchange in order
to facilitate the modernisation of such key industries, as oil and gas, metallurgy, energy, and housing and utilities. At the interregional cooperation level, the Northwestern federal district and Norway participate in a number of regional programmes and international cooperation organisations aiming to solve a wide spectrum of problems of the Baltic Sea region and the Nordic countries, including those relating to the application and development of innovations, namely, the Arctic Council, the Barents Euro-Arctic Council, the Council of Baltic Sea State, cross-border cooperation, and the Northern Dimension policy covering the cooperation territory of the above organisations. Russian north-western regions and Norway also participate in cross-border and transboundary cooperation programmes. Since 2000, 363 projects have been implemented; projects with innovative components account for 25% of the total number (94 projects). The most active participants of cross-border cooperation with Norway in the field of innovation development are the Murmansk and Arkhangelsk regions (in the framework of the Kolarctic Interreg III a North programme) and Saint Petersburg, the Kaliningrad and Pskov regions (the Interreg III a B neighbourhood programme).

It is worth noting that, within the projects relating to the application and development of innovation, Norway is especially active, as well as Russian regions (Saint Petersburg, the Kaliningrad, Murmansk, Leningrad, and Pskov regions, and the Republic of Karelia). Moreover, Norway and Russia — both classed as “adjacent territories” within the Programme — participate in innovative projects more actively than the Baltics and Poland — the main areas of the Programme implementation.

In the Barents region, within the joint projects of the Kolarctic Interreg III a North relating to the application and development of innovations, Norwegian regions and North West Russia seem to be the most active participants. It is Norway that is the most active participant and initiator of projects with the participation of North-West Russia in the Barents region. The projects are problem and practice oriented: the creation of new production facilities with the use of international experience, the coordination of staff training system and regional labour market formation, joint research in applied fields.

At the level of commercial cooperation, due to the geographic proximity, the similarities in economic and geographical conditions and, as a result, common priorities and problems of regional development, North-West Russia are the most active participants in cross-border and transboundary cooperation with Norwegian regions. At the same time, one cannot but mention that the relatively short period of liberalisation of Russian-Norwegian transboundary interaction conditions, as well as the predominant orientation of transboundary activity vector to the East explains the “macrogeographical” nature of the location of Russian-Norwegian economic cooperation centres in Russia. The largest centres are Moscow, which is located beyond the Northwestern federal district, Saint Petersburg, and Murmansk. All in all, this situation is characteristic of early stages of cross-border and transboundary cooperation development, when the “degree of acquaintance” with the market and agents of the potential interaction and cooperation area is rather generalised. A trend towards geographical diversification and specialisation of cooperation centres on the territory of Russia through their development
in the Murmansk, Arkhangelsk, Leningrad, and Kaliningrad regions and on other Russian territories (the Nizhny Novgorod, Lipetsk, Kaluga, and Sakhalin regions) has emerged recently. In general, the development of transboundary economic cooperation reminds of a process of Russian market development by Norwegian companies.

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At the regional level, as a result of international projects in the framework of cross-border and transboundary cooperation programmes, the interaction between North-West Russia and Finnish, Estonian, and Norwegian regions becomes a regular activity, which can serve as a basis for the emergence of innovative projects. In this relation, Saint Petersburg is the undisputed leader in North-West Russia, and Finland plays the role of the perfect neighbour — more than 300 projects have been implemented in the framework of cross-border cooperation, they have not only yielded tangible results in terms of mutual trade, but also have had a social, environmental, and economic effect.

A new type of strategic regional partnership called “Saint Petersburg corridor” is developing between the regions of South-East Finland and Saint Petersburg and adjacent territories; it focuses on the development of business, innovations, environmental protection and healthcare, tourism, transport, and logistics. Partnership develops in the framework of the Saint Petersburg Corridor — the Two-Model Open Innovative Platform project implemented by the Finnish-Russian Innovation Centre; its main achievement is the establishment of the Russian-European Innovation Partnership and an innovation support network in the Leningrad region [5]. Transboundary innovative clusters are a promising form of cooperation between North-West Russia and Estonia. As a result of research in the framework of the project “Cluster Development and B2B internationalisation” implemented within the operating industries of the Leningrad region and the Ida-Viru County, project experts identified the following potential border clusters — fossil fuel extraction, woodworking, chemical industry, metalworking, tourism, transport and communications, coke industry, oil product and nuclear material industries, mechanical engineering, and construction [7]. The development of border clusters in the Leningrad region and the Ida-Viru County requires stable data transfer and access to the accumulated knowledge [6].

The cooperation between North-West Russia and Norway follows the principle of mutual compensation between the Russian demand for innovations and the Norwegian supply thereof. As a result of different levels of economic development, Russian northern regions serve as counteragents of the Nordic Countries that accept rather than formulate the agenda on the issues, where Russia plays the role of a passive partner. In this sense, international communication makes Russian regions the object of cooperation and a sales market and serves for the Russian region as a source of ideas, experience, and best modernisation practices. Thus, the strategies of “innovative borrowings” as a form of transboundary cooperation between North-West Russia and Norway are typical and widely employed.

The most promising areas of Norwegian-Russian cooperation in the field of innovations with potential active participation of North-West Russia are
the development of transport solutions in the Barents Sea area, oil, gas, ore, and mineral extraction and processing, fishery and aquaculture, industrial production and environment.

It is worth noting that, in a number of regions of North-West Russia (Saint Petersburg, the Murmansk, Arkhangelsk, and Leningrad regions, and the Republic of Karelia), the level of innovative infrastructure development against the background of developed and active transboundary interaction contributes to the formation of the foundation of transboundary innovative systems, whose development greatly depends on the implementation of large investment projects in the Barents and Baltic regions.

Projects of the Baltic Sea region programme for 2007—2013 approved within the “Fostering Innovations” priority (as of August 2012)

<table>
<thead>
<tr>
<th>Project name and implementation period</th>
<th>Objectives</th>
<th>Partners</th>
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<tr>
<td>Sustainable, energy efficient and resource saving residential buildings with consideration of unified procedures and new and adapted technologies (LongLife). January 2009 — January 2012 [29]</td>
<td>The introduction of new technologies in construction to reduce energy losses in participant states</td>
<td>Germany, Denmark, Lithuania, Poland</td>
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<tr>
<td>Best Agers — Using the knowledge and experience of professionals in their primes to foster business and skills development in the Baltic Sea Region September 2009 — December 2012 [15]</td>
<td>Joint efforts of 19 partners from 8 countries aimed at developing new ideas and using the experience and knowledge of “best agers” for business development</td>
<td>Latvia, Denmark, Estonia, Germany, UK, Lithuania, Poland, Sweden</td>
</tr>
<tr>
<td>ICT for Health September 2009 — December 2012 [20]</td>
<td>Strengthening social capacities for the utilisation of Health technologies in the framework of ageing population with chronic diseases</td>
<td>Denmark, Finland, Germany, Lithuania, Norway, Poland, Sweden</td>
</tr>
<tr>
<td>BSR QUICK — Qualification, Innovation, Cooperation and Key business for Small and Medium Enterprises in the Baltic Sea Region September 2009 — December 2012 [16]</td>
<td>Better qualification of owners and employees of SMEs and academic education</td>
<td>Germany, Poland, Lithuania, Estonia, Belarus, Finland, Norway, Denmark, Sweden, Latvia</td>
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References


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