



HIGHER SCHOOL OF ECONOMICS  
NATIONAL RESEARCH UNIVERSITY

# Institute for Statistical Studies and Economics of Knowledge



**The Institute for Statistical Studies and Economics of Knowledge (ISSEK)** is a large research institution operating under the auspices of National Research University — Higher School of Economics (HSE). ISSEK was founded in 2002 for providing scientific research on economics, statistics, Foresight, science, technology and innovation (STI) policy, education and training, and information and communication technologies (ICT). ISSEK research places HSE as a leading centre of expertise in the field of statistics and new economy in Russia.

## RESEARCH

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- ❖ Advancement of theory, methodology and practices of statistical measurements in the areas of STI, education and Information Society
- ❖ Comparative analysis of trends in STI, education and Information Society in Russia and worldwide
- ❖ Organisation of problem-oriented statistical, sociological and expert surveys
- ❖ STI policy studies
- ❖ Foresight and priority setting for STI, social and economic development at national, regional, sectoral and corporate levels
- ❖ Development of innovation strategies, programmes and roadmaps for companies, industries and regions
- ❖ Methodological and organisational support to Russian technology platforms and regional innovation clusters
- ❖ Organisational, information and consultative support to Russian universities and research organisations participating in the EU Framework Programmes for Research and Technological Development
- ❖ Information and analytical support to Russia's participation in the activities of the Organisation for Economic Co-operation and Development (OECD)

## EXPERTISE AND CONSULTANCY FOR PUBLIC AUTHORITIES

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- ❖ Advancing national statistics, methodological support to federal statistical surveys in STI, education and Information Society
- ❖ Foresight of STI development in the Russian Federation
- ❖ Providing recommendations for STI policy-making
- ❖ Measuring business climate and assessing economic trends in various sectors of economy

ISSEK has contributed to the development of the following federal and sub-national documents:

- ❖ Recommendations for the Strategy for Socio-Economic Development of the Russian Federation until 2020 (in the framework of expert group «Transition from Stimulating Innovation to Innovation-based Growth»)
- ❖ Strategy for Innovation-based Development of the Russian Federation until 2020
- ❖ State programmes of the Russian Federation «Development of Science and Technology» and «Development of Education»
- ❖ Concept of Long-term Social and Economic Development of the Russian Federation until 2020
- ❖ Strategy for the Development of Science and Innovation in the Russian Federation until 2015
- ❖ Concept of Long-term Foresight of Science and Technology in the Russian Federation until 2025
- ❖ Strategy for Social and Economic Development of Moscow City until 2025
- ❖ Strategies for Social and Economic Development of Samara and Tula regions until 2030, et al.

ISSEK scholars represent Russia in expert groups of international organisations – OECD, European Commission, Eurostat, UNESCO, UNIDO, et al.

## **CENTRE FOR STATISTICS AND MONITORING OF SCIENCE AND INNOVATION**

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The Centre's activity is focused on advancing statistics and performing monitoring studies in STI.

The Centre's activities and projects include:

- ❖ Development of a monitoring system for the economy of science
- ❖ Inventory of Russian research and development (R&D) organisations
- ❖ Performance assessment of STI activities of research organisations, universities and companies at national and sub-national levels
- ❖ Comparative analysis of STI development in Russia, OECD member states, BRICS and other countries
- ❖ Development of nanotechnology and biotechnology statistics in Russia
- ❖ Establishment of a monitoring system for innovation development programmes of large state-owned companies
- ❖ Russian Regional Innovation Scoreboard
- ❖ Problem-oriented statistical surveys:
  - ◆ development and use of critical technologies
  - ◆ R&D and innovation activities of universities, integration of science and education
  - ◆ innovation activities of SMEs
  - ◆ globalisation of R&D
  - ◆ commercialisation of intellectual property rights and technology transfer
  - ◆ fixed assets and experimental base of R&D
- ❖ Assessment of STI impact on the achievement of social and economic development goals of the Russian Federation
- ❖ Monitoring of budgetary and non-budgetary expenditures by S&T priority area

- ❖ Technology assessment, business technology audit and benchmarking for companies

The Centre takes part in international projects:

- ❖ Statistical Framework for Measuring Emerging, Enabling and General Purpose Technologies (OECD)
- ❖ Statistical Monitoring of Processes of the New Economy Formation (European Commission, Italian National Institute of Statistics), et al.

The Centre's scholars are members of international expert groups:

- ❖ OECD Working Group of National Experts on Science and Technology Indicators (NESTI)
- ❖ OECD NESTI Advisory Board
- ❖ OECD NESTI Task Force on developing a conceptual and methodological framework for emerging, enabling and general-purpose technologies
- ❖ OECD NESTI Task Force on calculation of R&D full-time equivalents
- ❖ OECD Working Party on Nanotechnology
- ❖ Eurostat Working Group on Statistics on Science, Technology, and Innovation
- ❖ International Advisory Board, Global Innovation Index (INSEAD, World Intellectual Property Organisation)

## **CENTRE FOR SCIENCE, TECHNOLOGY, INNOVATION, AND INFORMATION POLICIES**

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The Centre performs basic and applied research for STI policy-making and policy implementation.

The Centre's experts contribute to the development of policy recommendations for national and regional public authorities and companies; draft regulatory legal acts, strategic and programme documents in the following areas:

- ❖ Advancing the efficiency of STI, institutional reforms
- ❖ Development and implementation of a performance evaluation system for R&D organisations
- ❖ Implementing efficient contract models in public R&D organisations
- ❖ Integration of science and education
- ❖ Mechanisms for regulating STI activities of universities; establishment of technology-intensive SMEs
- ❖ Development of economic and legal models for national research centres, centres of excellence, open innovation centres, research and educational centres
- ❖ Establishment of autonomous institutions in science and education
- ❖ Drafting innovation development programmes for large state-owned companies
- ❖ Research and methodological support to technology platforms, evaluation of their efficiency
- ❖ Creation of Russian cluster observatory (<http://cluster.hse.ru>), development of regional cluster policy, elaboration of development programmes for territorial clusters
- ❖ Tax incentives for innovation
- ❖ Advancement of the legal and regulative framework for innovation and technology transfer

The Centre's activities include:

- ❖ Studies of innovation process actors' behavior
- ❖ Monitoring innovation activity of enterprises and R&D organisations
- ❖ Studies of STI funding; advancing the network of STI support foundations
- ❖ National report «Innovation-based Development as a Basis for Modernising Russia's Economy»

The Centre's international projects include:

- ❖ Rising Powers: Emerging Technologies and Implications of Next Generation Innovation Systems Development in China and Russia
- ❖ Comparison of National Innovation Systems of BRICS Countries
- ❖ The Third Mission of Universities (UNIDEV project), et al.

The **Research Laboratory for Economics of Innovation** was created within the Centre in 2010 under the supervision of Professor Ian Miles (University of Manchester, UK). The Laboratory aims at the development of theoretical approaches, models and empirical studies in the economics of innovation and at the elaboration of instruments for evidence-based innovation policy.

The Laboratory's main research areas are:

- ❖ Innovative behavior of enterprises
- ❖ Performance of R&D organisations
- ❖ Emerging technologies and innovation markets
- ❖ Intellectual services markets
- ❖ Competences and skills for innovation
- ❖ Consumer-driven innovation

## **INTERNATIONAL RESEARCH AND EDUCATIONAL FORESIGHT CENTRE**

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The Centre develops Foresight methodology and performs future studies in S&T, innovation and socio-economic area.

The Centre is a strategic partner of international organisations, research centres and universities performing Foresight studies. Its Advisory Board (Chairman — Professor Luke Georgiou, University of Manchester, UK) involves leading international scholars. The Centre's experts database consists of over ten thousand leading Russian and international experts.

The Centre provides research covering a broad range of thematic fields and economic sectors: oil and gas industries, power engineering and machine-building, aerospace sector, medicine and pharmaceuticals, micro-electronics, nanoindustry, biotechnology, environment, energy efficiency, et al.

The Centre actively interacts with government officials, CEOs of large and medium enterprises, business associations and civil society organisations. The Centre applies advanced project management techniques.

Among the Centre's outcomes there are:

- ❖ Science and Technology Foresight of the Russian Federation: 2030 (<http://prognoz2030.hse.ru/>)
- ❖ Long-term Foresight studies and roadmaps for prospective areas of science and technology, innovation markets and products, sectors of economy and Russia's regions
- ❖ Methodological and organisational support for identifying national S&T priorities and developing the List of Critical Technologies of the Russian Federation
- ❖ Development of innovation concepts, programmes and roadmaps for Russia's leading companies in various industries; monitoring of their implementation
- ❖ Identification of innovation-based development priorities for the natural resources sector of the Russian Federation

The Centre's experts are members of international working groups:

- ❖ Regional Foresight Blueprint
- ❖ OECD International Foresight Professional's Network
- ❖ UNIDO Expert Group on Technology Foresight

and steering committees of international conferences:

- ❖ Advisory Board of the European Futurists Conference, Lucerne



- ❖ Advisory Board of the International FTA Conference, IPTS, Seville
- ❖ Advisory Board of the Atlanta Conference on Science and Innovation Policy, et al.

The Centre participates in international projects, including:

- ❖ European Foresight Monitoring Network
- ❖ European Foresight Platform
- ❖ International Foresight Academy
- ❖ Scanning for Emerging Science and Technology Issues
- ❖ ERA.Net RUS: Linking Russia to the European Research Area
- ❖ EU-RU.Net: Priorities of EU-Russia Cooperation in Nanoelectronics

To advance the implementation of UNIDO Regional Technology Foresight Programme for Central and Eastern Europe and Newly Independent States, the Centre was granted the status of UNIDO Regional Centre for Technology Foresight.

**The Research Laboratory for Science and Technology Studies** was created within the Centre in November 2010 under the supervision of Jean Guinet, former Head of Country Studies and Outlook Division of the OECD Directorate for Science, Technology and Industry. The Laboratory undertakes studies that focus on Foresight and quantitative and qualitative methods of S&T policy evaluation.

The Laboratory's key research areas are:

- ❖ Methods and instruments for analysing and forecasting the development of science (Foresight, bibliometric and patent analysis etc.)
- ❖ Monitoring and evaluation of S&T policy (global trends, Grand Challenges, priorities, instruments etc.)

## **CENTRE FOR STATISTICS AND MONITORING OF EDUCATION**

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The Centre provides research and methodological support to education statistics, monitoring and analytical studies in the field of education.

The Centre is engaged in the following areas:

- ❖ Methodology and instruments for education statistics; development of relevant systems of indicators
- ❖ Analysis of trends and prospects for education in Russia, cross-country comparisons
- ❖ Social attitudes to education-related issues
- ❖ Life-long learning trends analysis
- ❖ Monitoring of education markets and organisations
- ❖ Analysis of occupational and qualification structures of employees
- ❖ Assessment of education efficiency and its impact on national and regional social and economic development.

The Centre's experts have contributed to the development of the following documents:

- ❖ Concept of modernisation of education statistics in the Russian Federation
- ❖ A complex system of education indicators in the Russian Federation
- ❖ Methodology for ranking Russia's regions by education indicators
- ❖ Unified statistical system for surveying educational establishments

The Centre's international projects include:

- ❖ OECD Thematic Review of Tertiary Education. Country Background Report for the Russian Federation
- ❖ The study of access to education

- ❖ Development of Statistical Indicators and Tools for Secondary and Vocational Education, et al.

## **CENTRE FOR STATISTICS AND MONITORING OF INFORMATION SOCIETY**

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The Centre specialises in methodology and instruments of Information Society statistics; monitoring studies, analysis of production and use of ICT.

The Centre's outcomes include:

- ❖ National Information Society and E-government ranking system
- ❖ Rankings reflecting ICT development in Russia's regions, E-government usage by federal and regional public authorities
- ❖ A system of indicators for the sectors of telecommunications, ICT and mass communications
- ❖ Integrated statistical surveys on the use of ICT in the economy, social sphere, public administration and households
- ❖ Methodology for assessing performance in the sphere of ICT

The Centre's international projects include:

- ❖ Development of Methodologies of ICT Statistics for Russia: Implementation of International Standards (UNIDO, European Commission)
- ❖ Statistical Monitoring of Processes of the New Economy Formation (European Commission, Italian National Institute of Statistics)

## **CENTRE FOR BUSINESS TENDENCY STUDIES**

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The Centre performs monitoring of social and economic reforms in Russia by undertaking regular business tendency surveys.

The Centre's outcomes include:

- ❖ Entrepreneur Confidence Index in manufacturing, construction, trade, services sector etc.
- ❖ Index of Economic Behaviour (HSE Index) – a composite indicator, which reflects business climate in the Russian economy.

## **CENTRE FOR ANALYSIS OF SOCIAL AND ECONOMIC INFORMATION**

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The Centre develops methods, software and support systems for decision-making; develops and maintains databases for analysis of statistical data, modeling and forecasting, e.g.:

- ❖ «Statistics and Monitoring of Knowledge Economy» – a system for storage and analysis of statistical data in STI, education, and Information Society
- ❖ «Scientific publications and citation» – a system for monitoring Russian and international science based on international publication activities of researchers

## **CENTRE FOR INTERNATIONAL PROJECTS**

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The Centre provides information, organisational and consultative support to international science and technology cooperation; manages international projects; organises international conferences, seminars, and presentations. Two National Contact Points – «Mobility» and «INCO» – were established within the Centre to promote participation of Russian researchers and research teams in the EU Framework Programmes.

The Centre's deliverables presented internationally are:

- ❖ Database of leading Russian R&D organisations engaged in international cooperation
- ❖ Assessment of Russian organisations' capacity for full-scale participation in the EU Framework Programmes etc.

The Centre's specialists take part in international expert groups and projects aimed at strengthening S&T cooperation between Russia and foreign countries:

- ❖ Joint Russia-EU Working Group on Researcher Mobility in the framework of the Joint Russia-EU S&T Cooperation Committee
- ❖ Identification of good practices and barriers hindering fruitful and mutually-beneficial EU-Russia S&T cooperation and development of recommendations on their reconciliation
- ❖ Comparative analysis and identification of strategic areas for EU-Russia S&T cooperation
- ❖ Development of recommendations on the enhancement of efficiency and coordination of Russia-EU S&T cooperation
- ❖ Development of a methodological manual on participation of Russian researchers in international scientific programmes
- ❖ Enhancing cooperation among Russian, EU's and other countries' National contact points (NCP) to facilitate exchange of experience and best practices
- ❖ Creation of a transnational S&T cooperation network involving EU and Eastern European & Central Asian countries.

## **INFORMATION AND COORDINATION CENTRE FOR COOPERATION WITH THE OECD**

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The Centre provides information and analytical support for cooperation between Russian executive bodies and the OECD and coordinates interaction between HSE academic and research departments and the OECD in specific fields.

The Centre's main areas of expertise are:

- ❖ Monitoring OECD activities in the field of education, science and innovation

- ❖ Coordinating Russia's participation in analytical projects and initiatives of the OECD
- ❖ Implementing research projects analysing OECD activities, its member states' best practices and Russia-OECD accession negotiations
- ❖ Preparing statistical, analytical and other information for OECD statistical data books and analytical reports
- ❖ Providing information, analytical and consultative support to Russian experts participating in OECD activities
- ❖ Organising regular expert meetings between Russian scholars and OECD representatives at HSE
- ❖ Preparing publications on topics related to OECD activities and Russia-OECD cooperation

## **PUBLICATIONS**

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ISSEK publishes Russian and English language statistical data books, analytical reports and reference books containing unique data: «Indicators of Innovation», «Indicators of Science», «Indicators of Education», «Indicators of Information Society», «Russian Innovation Index», «Russian Regional Innovation Scoreboard»; series of publications based on the results of empirical and methodological studies, including terminological dictionary «Economics of Knowledge in Statistical Terms: Science, Technology, Innovation, Education and Information Society», as well as on the results of Foresight studies assessing the perspectives of STI development.

Published since 2007, the «Foresight-Russia» journal (<http://foresight-journal.hse.ru>) covers key topics in STI studies and Foresight methods and instruments. According to the Russian Science Citation Index, it is one of the highest-ranking journals in the field of social sciences: by impact factor, it ranks 1<sup>st</sup> in Science Studies, 1<sup>st</sup> — in Organisation and Management, and 3<sup>rd</sup> — in Economics.

## EDUCATIONAL ACTIVITY

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ISSEK staff have developed and taught courses for graduate and post-graduate students:

- ❖ Socio-economic analysis of STI (in English)
- ❖ Strategies and policies for STI (in English)
- ❖ Long-term STI Foresight
- ❖ STI Statistics
- ❖ Innovation Management

ISSEK experts hold master-classes and training on Foresight studies and strategic management for companies, universities and research organisations.

### **Contact information**

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