



RUDN
university

UNITING PEOPLE OF DIFFERENT CULTURES
BY KNOWLEDGE, RUDN CREATES LEADERS
WHO MAKE THE WORLD BETTER

5100

PROGRAMME FOR ENHANCING
COMPETITIVENESS

ACTION PLAN – ROAD MAP
2018-2020

eng.rudn.ru

RUDN UNIVERSITY STRATEGIC GOALS, 2018-2020

Strategic Goals



Contributing to human capital development to meet regional and global challenges

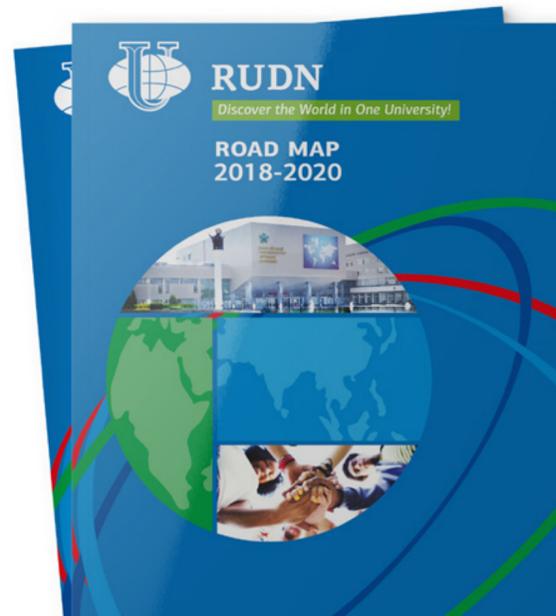
>18 000 professionals for more than **150** countries

The most international university of Russia on the global stage

>160 countries represented by students and researchers
>100 joint programmes with world leading universities, including online learning

Significant position in the global digital, sociocultural and educational environment

60 MOOCs developed and implemented by RUDN
40% major academic programmes online



The worldwide integration of the new RUDN brand

×2 increase of Media publications in foreign languages
2 mln users of international Social Media annually



5 Multidisciplinary Research Areas

UN Global Sustainable Development Goals

RESEARCH AREAS

INDUSTRY, INNOVATION AND INFRASTRUCTURE

5G technologies for managing the digital economy

Establishing an information and technology environment for implementing the concept of Industry 4.0

Assessing the toxicity of nanomaterials based on aerobiological research.

Next-generation space infrastructure

SUSTAINABLE CITIES AND COMMUNITIES

Assessing ecosystem services in green urban infrastructure by using methods of high-frequency monitoring and remote sensing

Smart technologies for the sustainable development of megalopolises in globalisation

PARTNERSHIPS FOR THE GOALS

Migration management issues amid the escalation of religious, ethnic and transregional conflicts

Methods of automatic linguistic text analysis in Arabic-language social networks based on developing thesauri for studying and classifying social processes in the Middle East and North Africa

AFFORDABLE AND CLEAN ENERGY

Instruments of nonlinear functional analysis and optimisation, and their adjuncts to energy problems

Criteria for energy efficiency and the efficient use of natural resources for oil and gas fields

GOOD HEALTH AND WELL-BEING

Mechanisms for the pathogenesis of diseases of various aetiologies, including infectious and parasitic ones, and diseases that are common in the tropical countries

Influence of micro- and macro-elements on the pathogenesis of metabolic syndrome

EXPECTED RESULTS

Distributed reference network and solutions for technological demonstrators IoT, Tactile Internet and augmented reality

Composition and technologies for applying coatings that increase the cavitation resistance of products

Complex for the aerobiological assessment of the safety of nanoparticles and nanomaterials

Models and concepts for next-generation space infrastructure

Models for ecologically stable soil designs

Digital maps of urban soil and the quality of green infrastructure objects

A system for the complex monitoring and assessment of ecosystem services for urban forests

Model for interpreting migration processes and identifying the different social and value contexts of migration trends

An analysis of socio-economic processes in the Arab world using artificial intelligence based on the developed thesauri

New methods for solving optimisation problems in the field of complex energy systems, energy supplies and the costs of resources

Increasing energy efficiency and the efficient use of natural resources in seismic surveying, in the process of monitoring and managing oil, gas condensate and gas field development

Technologies for developing new test and diagnostic systems to apply in the tropical countries and receiving proteins and peptides using molecular chaperones

Model for testing imbalances of microelements related to the development of metabolic disorders



Human Capital and Research Environment

INTERNATIONAL FACULTY AND YOUNG ACADEMIC STAFF

10.2%

Increase in the number of international faculty

Recruiting professionals from top-400 QS/THE universities and Top business companies on senior positions

1.2%

2017

25%

Increase of young academic staff

Their further career development:

- internships abroad: ERASMUS+, CDI, DAAD, Global education
- scholarships for Masters and PhD students

17%

2017

INFRASTRUCTURE AND FACILITIES

>20 MODERN WORLD-CLASS LABORATORIES AND SCIENTIFIC CENTRES, INCLUDING:

- Centre for 3D Technologies in Additive Manufacturing
 - Centre for Pharmaceutical Technologies
 - Laboratory for molecular design and synthesis of innovative compounds
 - Innovative Engineering Technologies Institute
-
- Modernizing the Vivarium to meet global standards
 - Expanding and modernising **23,000** square metres of laboratories
 - **Introducing 35,000 extra** square metres for creating students friendly environment for studying and creativity
 - **Co-working space** in all academic buildings

ELIMINATING PUBLICATIONS IN PREDATORY JOURNALS

- **REQUIRING Q1-Q2 ARTICLES IN FACULTY EFFECTIVE CONTRACT**
- **CANCELLING INCENTIVE PAYMENTS FOR ARTICLES IN PREDATORY JOURNALS**
- **GENERATING RUDN UNIVERSITY RESEARCHERS PUBLICITY**
- **COMPULSORY CODE OF ETHICS FOR RESEARCHERS**

Market Driven Education



DIGITALISATION OF ACADEMIC PROGRAMMES

BLENDED LEARNING: developing university's own distant learning online-platform TTIS¹: 40% major academic programmes to have their own online courses: total number to increase **from 80 to 400**

CREATING 40 ENGLISH-LANGUAGE MOOCs AND IMPLEMENTING THEM ON 5

INTERNATIONAL INTERNET-PLATFORMS: infocommunications, artificial intelligence, applied chemistry, engineering, architectural engineering, linguo-civilisational problems, psycholinguistics, intercultural communication, etc.

20 MOOCs based on **Continuing Professional Development (CPD)** both in Russian and foreign languages - in the medical, ecological, agrarian, legal and humanities fields

>100 new CPD programmes (including E-learning) for the international audience of **>70 countries**

1. Telecommunication Training and Information System

EMPLOYERS

PROACTIVE COOPERATION WITH EMPLOYERS

20 joint international academic programmes with corporations such as **ROSCOSMOS, Domodedovo, Yandex, the Big Four, Adidas, Transneft**

>60 tailored CPD programmes for international corporations

Creating RUDN International Employers' Club – a platform for business, academic leaders and graduates

RUDN has assisted to employ students in 30 countries. The number is to double, **60** - by 2020



Regional Clusters: Attracting International Students

REGIONAL CLUSTERS

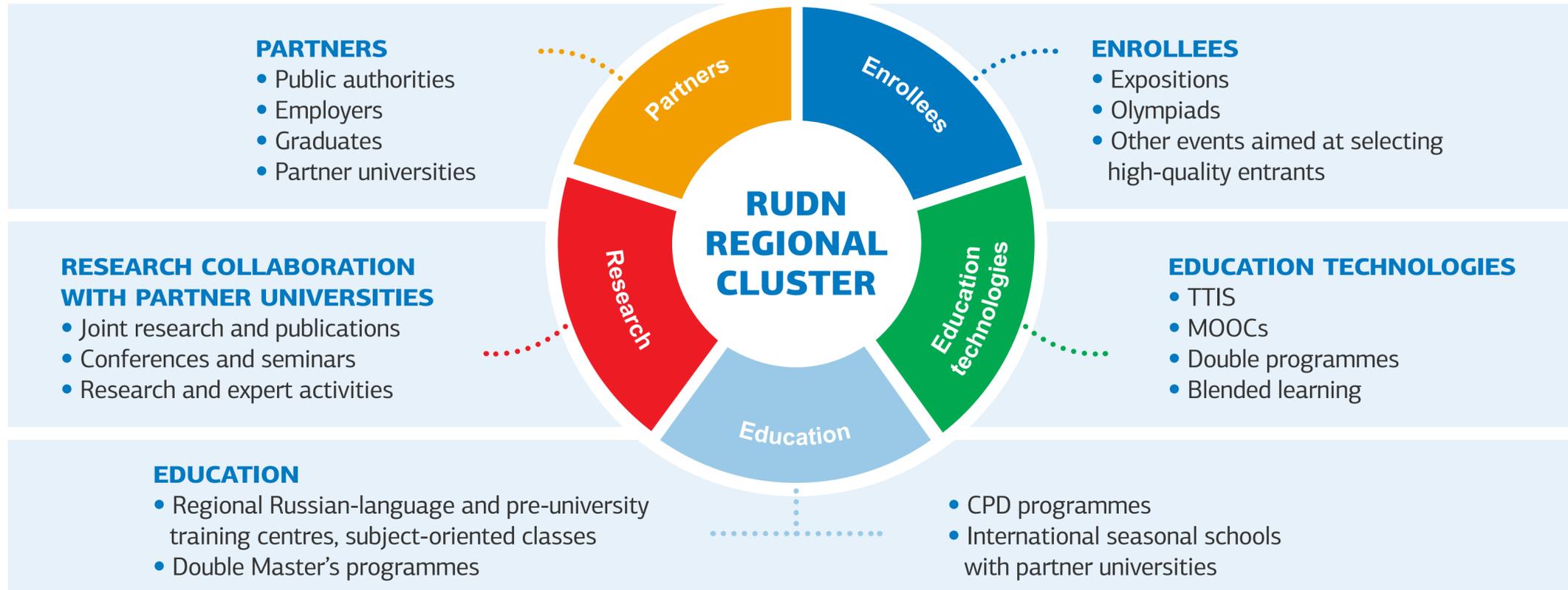
AFRICA

MIDDLE EAST AND NORTH AFRICA

LATIN AMERICA

ASIA

CIS



2018

Lebanon
Jordan
Ecuador
China

Zambia

Dominican Republic

Kazakhstan

2019

Morocco

Kenya

Gambia

Angola

Vietnam

Brazil

2020

India

Turkey

Iran

STUDENTS AND ENROLLEES



- 20% of international students will have **internships and training abroad** and/or in international companies in Russia
- Monitoring graduates employment: employers, areas of activities, salaries, positions, etc.
- «**Success stories**» on the website inspiring enrollees to study at RUDN

INTERNATIONAL ENVIRONMENT

- **CPD programmes** for other Russian universities aimed at sharing experience of international students social and cultural adaptation
- **Sociocultural integration of international students:**
 - development of student volunteer centres and programmes, engaging **>1,000** students
 - holding a range of orientation events **>300** events annually
- **Students personal potential development and shaping their social competences**

SUPPORTING:

- **>150** student unions
- **~4,000** students taking part in socially important projects, forums, festivals, contests and other events in Russia and abroad

Graduates as University Ambassadors

SEGMENT

CONTRIBUTION TO RUDN UNIVERSITY'S DEVELOPMENT



STAFF RECRUITMENT	BRAND PROMOTION	DEVELOPMENT OF INFRASTRUCTURE AND UTILITIES
GRADUATES EMPLOYMENT	RESEARCH PARTICIPATION	ATTRACTING INTERNATIONAL ENROLLEES



RUDN University Brand

Discover the World in One University!

RUDN LIFE

«HI, I'M RUDN UNIVERSITY!»

«LIVE IN MOSCOW – LOVE RUDN UNIVERSITY»

«DISCOVER THE WORLD IN ONE UNIVERSITY»

RUDN SCIENCE

«RESEARCH WITH RUDN UNIVERSITY»

«BE A LEADER»

RUDN SOCIETY

«MAKE THE WORLD BETTER»

«LEAD YOUR COUNTRY»

PR PROJECTS by 2020

INTERNATIONAL MASS MEDIA

500 PUBLICATIONS

- Popular science materials
- Expert comments from RUDN researchers
- Interviews, sketches and infographics

SOCIAL MEDIA

6 mln AUDIENCE

- Videos, tests, crosswords and gif-technologies
- First-person student stories about science, sports, professional goals and leadership

WEBSITE

×2 TRAFFIC GROWTH

- Scientists' and graduates' portfolios
- Issue-related news feed
- Research projects
- Registration of employers, career library and vacancy search

StrAU: Smart Society



PURPOSE

To form a world-class multidisciplinary research and educational environment to respond to smart-society megatrends through the convergence of mathematics and natural and computer sciences: nanosafety, the development of artificial intelligence and advanced digital and network technologies

CONTRIBUTION BY 2020

QS Rankings

Mathematics **TOP-100**
Chemistry **251-300**

Algorithms and mathematical models for improving the efficiency of heterogeneous infocommunication networks

Principle mechanisms of forming nano-objects in industries and their impact on ecosystems

Method of non-contact robotic systems control and personal identification based on facial recognition

37% of WoS/Scopus publications of the StrAU at RUDN

RESEARCH AREAS

- Research into 5G networks for applied solutions for managing the digital economy
- Smart technologies for the sustainable development of megacities amid global changes
- Nanosafety. New physical and chemical approaches to assessing the toxicity of nanomaterials
- Functional analysis and differential equations and their applications

EDUCATION

4 English-language multidisciplinary programmes in technosphere safety, infocommunications and intellectual systems management, heterocyclic compound chemistry and green infrastructure for sustainable urban development

ENGAGED RESEARCHERS

Riccardo Valentini (Nobel Laureate)
Yakov Kuzyakov (h-index 47)
Erik V. van der Eycken (h-index 35)
Enrique Herrera-Viedma (h-index 61)
Boris Mordukhovich (h-index 26)
Yulia Larionova (h-index 33) etc.

PARTNERS

Free University of Berlin (Germany)
Wroclaw University of Science and Technology (Poland)
University of Nice Sophia Antipolis (France)
National Research Center «Kurchatov Institute»



StrAU Head:

LEONID VOSKRESSENSKY

h-index of 14
Doctor of Chemistry,
Professor in the Russian
Academy of Sciences



Head of Research:

KONSTANTIN SAMOUYLOV

h-index of 10
Doctor of Engineering,
Professor



StrAU: Digital Production Technologies (Industry 4.0)

PURPOSE

To develop a world-class research, technological and educational cluster for the development of innovative digital production technologies and their promotion in the engineering, medical, pharmacological and construction industries to increase their economic efficiency in Russia and emerging economies

CONTRIBUTION BY 2020

QS Rankings

Mathematics **TOP-100**
Chemistry **251-300**

200 mln rubles from R&D = 45% of StrAU revenues from external sources

Modernisation and creation of **12** laboratories with high-tech equipment

Personnel training based on innovative educational models including project-oriented approaches: CDIO, Learning Factory, Deep Learning, Machine Learning and Education 4.0.

RESEARCH AREAS

- Development and implementation of large-scale chamber-free additive manufacturing
- Development of technologies in digital additive manufacturing for the construction industry
- Personification of drug therapy with the use of metabolomics tools and pharmaceutical technologies

EDUCATION

Programmes in English in additive manufacturing, digital engineering, pharmaceutical science, etc., including those implemented in collaboration with leading global higher-education institutions and businesses

ENGAGED RESEARCHERS AND SPECIALISTS

Jorg Huwyler (h-index 33)

Evgeny Landa (h-index 18)

World-class specialists from high-tech companies: Fanuc, InssTek Inc. (South Korea) etc.

PARTNERS

Rostec, Gazprom, Fanuc, InssTek, Novo Nordisk

University of Basel (Switzerland)

Wroclaw University of Science and Technology (Poland)



StrAU Head:

EVGENY SHCHESNYAK

Doctor of Economics,
First Vice-Rector
of RUDN University

StrAU: Language, Culture, Communication and Globalisation



PURPOSE

To set up an internationally oriented, multidisciplinary linguistic research and education centre for analysing and developing models of intercultural coordination during globalisation and the escalation of migration processes, and the integration of language, psychology and communication into a different linguo-cultural environment

CONTRIBUTION BY 2020

QS Rankings

Modern Languages
201-250

Methods of sociocultural adaptation in a different cultural space

Predicting risk management methods in conflicting-language situations

Thesauri and artificial intelligence technologies as a system to analyse socio-economic processes in the Arab world

International faculty in the StrAU - **14%**

International students in the StrAU - **28%**

RESEARCH AREAS

- Comparative multidisciplinary studies of languages and cultures in different socio-cultural contexts
- Issues of managing migration processes in the context of the intensification of religious, ethnic and interregional conflicts

EDUCATION

Development of three joint programmes in foreign languages with top-100 universities in the QS Subject Area Ranking “Modern Languages” and/or top-300 universities in QS WUR

ENGAGED RESEARCHERS

Jean-Marc Dewaele
(University of London, h-index 18)

Donal Carbaugh
(University of Massachusetts, h-index 11), etc.

PARTNERS

Institute of Political Studies of Bordeaux
UN Psychological Service
Free University of Brussels
Complutense University of Madrid
Heidelberg University
Northeast Normal University (China)
University of Jordan



StrAU Head:

VIKTOR BARABASH

Doctor of Philology,
Professor



Head of Research:

TATIANA LARINA

Doctor of Philology,
Professor