2021

ANNUAL REPORT

FSFEI HE “VORONEZH STATE UNIVERSITY”

2021

Voronezh
VSU Publishing House
2022


ЗОЛОТОЙ ФОНД ВГУ


СБЕРБАНК
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RECTOR'S ADDRESS

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D.A. Endovitsky,
Rector of Voronezh
State University

President of the Russian Federation V.V. Putin announced 2021 to be the Year of Science and Technology. This year brought our university significant achievements in all fields of research: mathematics, physics, biology, medicine, Earth studies, and humanities. We strengthened our academic and scientific schools, developed interdisciplinary and interfaculty research, and promoted collaboration between researchers specialising in different fields of study. The university's young scientists demonstrated greater performance, we managed to establish more effective collaboration with the business community and industry, as well as with schools and secondary vocational education institutions.

I am talking about the progress we made in the Year of Science and Technology, which united the whole university, not out of the desire to boast or to feel justified to rest on our laurels, but for completely different reasons. First, I want to say thank you to everyone for their contribution to the achievements presented in this report. Second, I would like to point out growth opportunities and stress the revealed drawbacks.

2021 presented a great challenge for all of us, since we had to face the difficulties and dangers of the pandemic. This year, we lost too many of our dear colleagues. We faced psychological and organisational challenges, with a lot of our students and staff members being seriously ill. We were knocked out of our routine and had to put enormous effort into arranging for sanitation in all the university's buildings and dormitories. All this meant that the rector's office and all the university's departments and services had to work extremely hard, and everyone had to take on significantly more responsibility, both personal and collective. These were the factors that determined our work during the reporting year.

I am pleased to say that we fought off this most difficult challenge. We did not stop the education process, we continued our research projects, and we implemented all the planned measures for social support and disease prevention. 71% of students and 90% of employees were vaccinated, and we continue organising regular vaccinations. One of this year's outcomes is that we are now fully prepared for the new challenges that may occur before the pandemic ends. However, I would like to stress that it is still too early to relax. We, and by "we" I mean every staff member, should remain vigilant, take precautions, and perform our work with utmost care and great level of responsibility and creativity. We should not just mourn those lost to the pandemic, but keep them in our memory and continue their work.

Another important area for the rector's office and other management structures in 2021 was counteracting terrorist and extremist ideologies. It is a task of national importance resulting from the complications in domestic and foreign policies. In this regard, the university's organisational and educational activities proved to be effective, but we need to constantly monitor the situation and work hard to enhance their effectiveness even further. This is the area which requires our constant attention.

To educate students both in and outside the classroom is the duty of our university and every staff member. It becomes more important and difficult over time and requires a comprehensive and creative approach and constant effort. This is what we were doing in 2021. This is what we should keep doing in 2022. I encourage my colleagues not to forget this.

In 2021, the university actively participated in the activities of a prestigious public organisation, the Russian Rectors' Union and the activities of its regional subdivision, the Council of Rectors of the Voronezh Region and the Association of Higher Education Institutions of Central Russia. This enabled us to develop a very important and promising area of activity – collaboration among universities.

It is undoubtedly an area that should be developed by involving the university's faculties, departments, academic schools, libraries, the botanical garden, and museums.

In 2021, we also strived, while being involved in the everyday routine, to keep in view the VSU strategic development plan. We all know that to stop means to be left behind. This is what we have no right to do. Therefore, we continued to implement our strategic development plan. This is what we are encouraged to do by our university's traditions, as well as by the objectives set by the government and the public for higher education institutions.

We should always remember the three missions of the university that have a positive effect on the social, economic, and cultural development of the region and work hard to implement them. These missions are educational, scientific, and pedagogical (sociocultural). These are the criteria by which our performance is assessed.

Anyone who is going to read and analyse the sections of this report, will obtain a detailed picture of the multiple sides of the university's multifaceted activities in all their complexity, and should make their own conclusions about the university's performance in the reporting year, and offer critical remarks and recommendations, which, I assure you, will be closely studied.

Each section of the report presents its own objectives and problems to be solved. For me and my colleagues these objectives are the following:

1. To maintain the well-being and health of the university's students and employees. To take all the necessary measures aimed at preventing the spread of the coronavirus infection while making sure that the university performs all of its functions based on the previously gained experience.

2. To implement the university's strategic development plan.

3. To ensure employers' demand for the university's graduates and to stay in contact with the employers; to train bachelor's, master's and specialist's degree students, as well as postgraduate students and students on secondary vocational education programmes for the needs of employers.

4. To support the spiritual and moral development of the university's employees and implement a comprehensive pedagogical programme and social support of students, employees, and veterans.

5. To maintain the quality of the education, research, and social and cultural activities of every subdivision and every employee of the university based on reasonable parameters and criteria.

6. To improve the leadership of the university in education, research, social and cultural development of the region, as well as within the national and international academic communities.

7. To enhance and develop the university's infrastructure.

I ask all the readers of this report to pay attention to our achievements. But you should pay no less attention to things we failed to achieve so that we can make our current work more effective and build a foundation for further development of the university that we all love so much.

By presenting this report on the university's performance in 2021, my colleagues and I hope to be worthy of the support of the university's staff, its partners and friends, and their help in implementing the objectives listed in the document. We are sure that together we can successfully achieve all our goals.


Воронежский
Государственный
Университет


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UNIVERSITY ADMINISTRATION

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UNIVERSITY ADMINISTRATION

2.1. BOARD OF TRUSTEES: STRUCTURE, LIST OF KEY ISSUES

The Board of Trustees of FSFEI HE Voronezh State University (hereinafter referred to as the VSU Board of Trustees) was created based the decision taken by the VSU Academic Council dated 28 September 2012 in accordance with the Charter of FSFEI HE VSU (sections 4.17, 4.20–4.32), and is one of VSU's management bodies.

The activities of VSU Board of Trustees are subject to the Charter of the Board of Trustees of Voronezh State University and the Rules and Procedures of the Board of Trustees of Voronezh State University.

As one of the university's management bodies whose activities are aimed at streamlining its operations, the Board of Trustees assists in:

- Addressing the university's development issues and goals.
- Attracting finances and material resources to support the university's development and activities, as well as controlling resource allocation.
- Enhancing the university's facilities.
- Developing higher education and postgraduate professional training programmes provided by the university to make sure they are in line with the requirements set by employers.

The VSU Board of Trustees consists of 28 people.

Since 21 June 2018, the Governor of the Voronezh Region, **Alexander Gusev**, has been the Chairman of the Board of Trustees.

Deputy Chairs of the Board of Trustees:

- **Alexander Sokolov,**
- **Evgeny Yurchenko.**

Secretary of the Board of Trustees:

- **Dmitry Zhukalin.**

MEMBERS OF THE VSU BOARD OF TRUSTEES

1. **Azret Bekkiev,** Deputy General Director of AO *United Instrument Manufacturing Corporation*.
2. **Anton Ganzha**, Regional Manager of *Vnesheconombank*.
3. **Tatiana Davydenko**, Vice Rector for Innovations of FSFEI HE *V.G. Shukhov Belgorod State Technological University*.
4. **Boris Danshin**, Director General of AO *Informsvyaz-Chernozemye* data provider.
5. **Dmitry Endovitsky**, Rector of FSFEI HE *VSU*.
6. **Viktor Yenin**, Director General of *Perspektiva Group*.
7. **Valentin Ievlev**, Full Member of the Russian Academy of Sciences, DSc in Physics and Mathematics, Professor, Head of the Department of Materials Science and Nanotechnology of the Faculty of Chemistry of FSFEI HE VSU.
8. **Alexey Kamyshev**, Director General of AO *Voronezh industrial corporation* (VInCo) (the management company of both the industrial park “Maslovskiy”).
9. **Dmitriy Lapygin**, Director of Economic Affairs of OOO *RET*.
10. **Valeriy Lukinov**, Director General of OOO *Stel-Invest*.
11. **Mikhail Mamuta**, Head of Consumer Rights Protection and Financial Services Accessibility Service, Bank of Russia.
12. **Nadezhda Mazalova**, General Director of OOO *Region-Terminal*.
13. **Mikhail Moskaltsov**, Deputy Head of the Voronezh branch of *VTB*.
14. **Mikhail Nosyrev**, President of ZAO *Spartak Cinema*.
15. **Alexey Ponomarev**, Vice President for Strategy & Industrial Cooperation of the Skolkovo Institute of Science and Technology (Moscow).
16. **Edgars Puzo**, Director General of *Atos IT Solutions and Services* LLC.
17. **Igor Risin**, DSc in Economics, Professor, Associate member of the Russian Academy of Natural Sciences, Head of the Department of Regional Economics and Territorial Administration of VSU.
18. **Alexander Sokolov**, Director General of OAO *Lipetsk Bus Lines*.
19. **Denis Stoliarov**, Vice Rector for Student Affairs at the Skolkovo Institute of Science and Technology (Moscow).
20. **Natalia Tretyak**, First Vice President of AO *Gazprombank*.
21. **Stephen Hagen**, Honorary Professor of the University of South Wales and a higher education expert of the European Commission (Great Britain).

22. **Andrey Khitskov**, Director of the *Voronezhsky* Prio-Vneshtorgbank operations office.
23. **Natalia Tsaitler**, Chairperson of the Central Black Earth Branch of PAO *Sberbank*.
24. **Valeriy Chernikov**, Board Chairman of AO *Insurance Business Group*.
25. **Gennadiy Chernushkin**, Founder of *Angstrem Group*.
26. **Elena Chupandina**, First Vice Rector – Vice Rector for Academic Affairs of FSFEI HE VSU.
27. **Anatoliy Shmygalev**, Deputy of the VII Voronezh Regional Duma.
28. **Evgeniy Yurchenko**, Chairman of A.S. Popov Investment Fund (Moscow).

There was one meeting of the Board of Trustees in 2020. It was aimed at discussing the following issues regarding the development of the university:

- Developing VSU's infrastructure.
- VSU's participation in the federal programme of academic strategic leadership "Priority-2030".
- Expanding the international activities of Voronezh State University.
- Partnership between universities in Voronezh and companies operating in the special economic zone of industrial type "Centre".
- Presenting the innovative projects by VSU scholars.

KEY RESULTS OF THE ACTIVITIES OF THE VSU BOARD OF TRUSTEES IN 2021:

- A decision was made to develop a roadmap for the construction of an interuniversity stadium on VSU's campus in the Northern District of Voronezh, including the development of design documentation and determining the prospective sources of financing.
- VSU was announced to be the leading university in the Voronezh Region to file an application for the competitive selection of leading universities in the Russian Federation within the framework of the academic strategic leadership programme "Priority-2030".
- The board supported the initiative to expand the activities of the German Alumni Association DAWU.
- The board supported the initiative to develop a way to involve Voronezh universities in the presentation sessions held by the current and prospective residents of the special economic zone of industrial type "Centre".

Information about the activities of the VSU Board of Trustees may be found on the website of FSFEI HE Voronezh State University **(www.vsu.ru)**

2.2. THE ACADEMIC COUNCIL: STRUCTURE, LIST OF KEY ISSUES

MEMBERS OF THE ACADEMIC COUNCIL

1. Dmitry ENDOVITSKY,
Rector, Chairman of the Academic Council.

2. ELENA CHUPANDINA,
First Vice Rector – Vice Rector for Academic Affairs,
Deputy Chairperson of the Academic Council.

3. Yuriy BUBNOV,
Vice Rector for Strategic Administrative Management.

4. Oleg GRISHAEV,
Vice Rector for Student Affairs and Social Development.

5. Oleg KOZADEROV,
Vice Rector for Research, Innovations, and Digitisation.

6. Larisa KOROBEINIKOVA,
Vice Rector for Economics and Contract Services.

7. Nikolai BRYANTSEV,
Vice Rector for Building Operation and Capital Development.

8. Leonid AKIMOV,
Head of the Department of Nature Management of the Faculty of Geography, Geoecology, and Tourism.

9. Alla AKULSHINA,
Head of International Relations Office.

10. Elena ALEKSEEVA,
Head of the Department of French Philology of the Faculty of Romance and Germanic Philology.

11. Alexander ALBEKOV,
Head of the Department of Mineralogy, Petrology, and Geochemistry of the Faculty of Geology.

12. Alexander BELANOV,
Head of the Department of Physical Education and Sports.

13. Oleg BELENOV,
Dean of the Faculty of International Relations.

14. Olga BORISKINA,
Dean of the Faculty of Romance and Germanic Philology.

15. Lidia BORISOVA,
Associate Professor at the Department of Translation and Professional Communication of the Faculty of Romance and Germanic Philology.

16. Maria BURLUTSKAYA,
Acting Dean of the Faculty of Mathematics.

17. Kira VASILIEVA,
Academic Secretary of the Academic Council.

18. Lyudmila VLADIMIROVA,
Head of the trade union of the university employees.

19. Alexey VLASOV,
Head of the University Dormitory Complex Administration.

20. Karina GAIDAR,
Head of the Department of General and Social Psychology
of the Faculty of Philosophy and Psychology.

21. Vladimir GLAZIEV,
Dean of the Faculty of History.

22. Alexandra GLUKHOVA,
Head of the Department of Sociology and Politology of the Faculty of History.

23. Zhanna GRACHEVA,
Dean of the Faculty of Philology.

24. Tatiana DEVYATOVA,
Head of the Department of Ecology and Land of the Faculty of Biomedical Sciences.

25. Evelina DOMASHEVSKAYA,
Consulting Professor at the Department of Solid State and Nanostructure Physics
of the Faculty of Physics.

26. Valentin IEVLEV,
Head of the Department of Materials Science and Nanosystems Technologies
of the Faculty of Chemistry, member of the Russian Academy of Sciences.

27. Alexander KAZHIKIN,
Associate Professor at the Department of Public Relations, Advertising,
and Design of the Faculty of Journalism.

28. Pavel KANAPUKHIN,
Dean of the Faculty of Economics.

29. Ludmila KOLTSOVA,
Head of the Department of the Russian Language of the Faculty of Philology.

30. Lyudmila KONOVALOVA,
Head of the Department of Academic Staff Assessment.

31. Yury KORENCHUK,
Head of the Military Training Centre.

32. Vladimir KOSTIN,
Professor at the Department of Mathematical Modelling of the Faculty of Mathematics.

33. Liubov KOT,
Associate Professor at the Humanities Department
of the International Education Institute.

34. Artem KRIVOSHEYEV,
Head of the Planning and Finance Department.

35. Alexander KRYLOVETSKY,
Acting Dean of the Faculty of Computer Sciences.

36. Andrey KUDRYAVTSEV,
Associate Professor at the Department of Criminal Procedure of the Faculty of Law.

37. Olga KUPRYUSHINA,
Associate Professor at the Department of Economic Analysis and Audit
of the Faculty of Economics.

38. Semyon KUROLAP,
Dean of the Faculty of Geography, Geoecology, and Tourism.

39. Sergey MEDVEDEV,
Associate Professor at the Department of Computational Mathematics
and Applied Information Technologies of the Faculty of Applied Mathematics,
Informatics, and Mechanics.

40. Arkadiy MINAKOV,
Professor at the Department of Russian History of the Faculty of History.

41. Grigoriy NAGIRNYAK,
Director of the Training Swimming Pool.

42. Viktor NENAKHOV,
Dean of the Faculty of Geology.

43. Tamara NIKONOVA,
Head of the Department of Russian Literature of XX–XXI Centuries
and the Theory of Literature and Humanities of the Faculty of Philology.

44. Elena NOSYREVA,

Head of the Department of Civil Law and Procedure of the Faculty of Law.

45. Oleg OVCHINNIKOV,

Dean of the Faculty of Physics.

46. Tatiana POPOVA,

Dean of the Faculty of Biomedical Sciences.

47. Alexey PROKHORCHENKO,

Head of the User Support Department.

48. Vladimir RODIONOV,

Director of the International Education Institute.

49. Natalia SAPOZHNIKOVA,

Head of the Department of Economic Security and Accounting of the Faculty of Economics.

50. Igor SVERTKOV,

Head of the Borisoglebsk Branch of Voronezh State University.

51. Vladimir SELEMENEV,

Consulting Professor at the Department of Analytical Chemistry of the Faculty of Chemistry.

52. Viktor SEMYONOV,

Dean of the Faculty of Chemistry.

53. Alexander SIROTA,

Head at the Department of Information Security and Processing Technologies of the Faculty of Computer Sciences.

54. Nikolay SKOLZNEV,

Director of the Galichya Gora reserve.

55. Aleksey SLIVKIN,

Dean of the Faculty of Pharmaceutics.

56. Yury STARILOV,

Dean of the Faculty of Law.

57. Andrey STARTSEV,

Chairman of the Students' Union.

58. Olga TRINEEVA,
Associate Professor at the Department of Pharmaceutical Chemistry and Pharmaceutical Engineering of the Faculty of Pharmaceutics.

59. Vladimir TULUPOV,
Dean of the Faculty of Journalism.

60. Olga URYVSKAYA,
Chief Accountant.

61. Konstantin FEDUTINOV,
Engineer at the computer equipment laboratory.

62. Ekaterina TSEBEKOVA,
Associate Professor at the Department of International Economics and International Business of the Faculty of International Relations.

63. Viktor SHAMAEV,
Professor at the Department of General Military Training of the Military Training Centre.

64. Alexander SHASHKIN,
Dean of the Faculty of Applied Mathematics, Informatics, and Mechanics.

65. Alla SHESTERINA,
Professor at the Department of Electronic Media and Speech Communication of the Faculty of Journalism.

66. Khidmet SHIKHALIEV,
Head of the Department of Organic Chemistry of the Faculty of Chemistry.

67. Igor SHUMSKIKH,
VSU main building officer.

68. Viktoria DOROKHINA,
student of the Faculty of Pharmaceutics.

69. Matvey MIKHALSKY,
student of the Faculty of Applied Mathematics, Informatics, and Mechanics.

70. Victoria PEREVOZNIKOVA,
MSc student of the Faculty of Mathematics.

71. Mariya RUSANOVA,
postgraduate student of Faculty of Philosophy and Psychology.

72. Raisa SHAMAILOVA,
MSc student of the Faculty of Geography, Geoecology, and Tourism.

LIST OF KEY ISSUES CONSIDERED BY THE ACADEMIC COUNCIL IN 2021

JANUARY

1. Report on the results of the university's research and innovative performance in 2020 (executive in charge – O. Kozaderov).
2. Report on the university's social development in 2020, and approving the plan for the next academic year (executives in charge – O. Grishaev and L. Vladimirova).
3. Inclusive education at the university: results and key objectives for 2021 (executive in charge – O. Grishaev).
4. Awarding academic titles (executive in charge – K. Vasilieva).
5. Competition, election (executive in charge – Yu. Bubnov).

FEBRUARY

1. The results of international students' admissions to the main educational programmes and further education programmes in 2020: achievements and challenges (executive in charge – V. Rodionov).
2. Report on the condition of the university's property assets and updating the programme of their modernization (executive in charge – A. Sokolov).
3. Graduate employability: report on the 2020 and approving the plan for 2021 (executive in charge – D. Zhukalin).
4. Organizing the university employee and student conference regarding the election of the rector (executive in charge – Yu. Bubnov).

APRIL

1. Rector's report on the results of the university's performance in 2020 (executive in charge – D. Endovitsky).
2. Financial and operating performance of VSU: the results of 2020 and the plan of financial and business operations for 2021-2023 (executive in charge – L. Korobeinikova).
3. Approving the tuition fees for each of the categories of university students in the 2021-22 academic year (executive in charge – L. Korobeinikova).
4. Awarding badges of honour (executive in charge – Yu. Bubnov).

MAY

1. Report on the implementation of the University's Strategic Development Plan (executive in charge – Yu. Bubnov).
2. Report on the student affairs at the university in 2020-21, and approving the plan for the next academic year (executive in charge – O. Grishaev).
3. The achievements of VSU's Student Board and ways of developing their work (executive in charge – O. Grishaev).
4. Organising the university's employee and student conference and determining the number of representatives for each category of employees and students of Voronezh State University (executive in charge – O. Grishaev).
5. Organizational changes at VSU (executive in charge – Yu. Bubnov).

JUNE

1. Competition, election (executive in charge – Yu. Bubnov).
2. Report regarding the implementation of the plan for anti-corruption measures at the university in 2020, and the plan for 2021 (executive in charge – A. Kudriavtsev).
3. The implementation of the Academic Council's decisions in 2020-21, and approving the plan for the council's activities in 2021-22 (executive in charge – E. Chupandina).
4. The university's "Priority-2030" project (executive in charge – D. Endovitsky).
5. Amendments to the agenda of the conference of employees and students of Voronezh State University (executive in charge – O. Grishaev).

AUGUST

1. Rector's address to the university's employees regarding the objectives for the 2021-22 academic year (executive in charge – D. Endovitsky).
2. Approving the educational programmes implemented by the university (executive in charge – E. Chupandina).
3. Awarding Wolfgang Eichwede, director of the Research Center for Eastern European Studies at the University of Bremen, with the title of the Honorary Doctor of VSU (executive in charge – D. Endovitsky).

SEPTEMBER

1. The 2021 admission campaign: results, challenges, and objectives for 2022 (executive in charge – E. Chupandina).
2. The university's informatisation in 2021 (executive in charge – O. Kozaderov).
3. Cold weather adaptation of the university buildings and facilities (executive in charge – A. Sokolov).

OCTOBER

1. The results of educational activities in higher professional and secondary vocational education programmes in 2020-21 (executive in charge – E. Chupandina).
2. Approving the admission rules for the main academic programmes offered by VSU in 2022. Allocating the admission quotas among the programmes (executives in charge – E. Chupandina and A. Makushin).
3. Report on the results of the performance of the university's branch in Borisoglebsk in 2020-21 (executive in charge – I. Svertkov).
4. The results of the purchasing of goods, works, and services in 2021 and formation of the unified time-schedule for purchases for 2022 (executive in charge – L. Korobeinikova).
5. Report by the Academic Secretary for the 2020-21 academic year (executive in charge – K. Vasilieva).

NOVEMBER

1. Digitalisation of the university: ideas, objectives, stages (executive in charge – O. Kozaderov).
2. Report on the implementation of the financial management system of the university in 2021 and approving the plan for its improvement in 2022 (executive in charge – L. Korobeinikova).
3. Awarding academic titles (executive in charge – K. Vasilieva).

DECEMBER

1. International collaboration: results for 2021, main objectives for 2022 (executive in charge – A. Akulshina).
2. Report on the performance of the International Education Institute (executive in charge – V. Rodionov).
3. Awarding badges of honour (executive in charge – Yu. Bubnov).

2.3. RECTOR'S OFFICE

Rector

Dmitry ENDOVITSKY

DSc in Economics, Professor. Honoured Worker of higher professional education of the Russian Federation. The author of 750 research papers and works. Advisor for 4 postdoctoral and 63 PhD theses.

Phone: +7 (473) 220-75-22
E-mail: rector@vsu.ru

First Vice Rector – Vice Rector for Academic Affairs

Elena CHUPANDINA

DSc in Pharmaceutical Sciences, Professor, Head of the Department of Economics and Management in Pharmaceutics and Pharmacognosy. The author of 314 research papers and works. Advisor for 4 PhD theses.

Phone: +7 (473) 220-87-31
E-mail: chupandina@vsu.ru

Vice Rector for Research, Innovations, and Digitisation

OLEG KOZADEROV

DSc in Chemistry, Associate Professor, Head of the Department of Physical Chemistry. The author of 195 research papers and works.

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E-mail: kozaderov@vsu.ru

Vice Rector for Economics and Contract Services

Larisa KOROBEINIKOVA

PhD in Economics, Associate Professor, Head of the Department of Economic Analysis and Audit. The author of 556 research papers and works, including 5 monographs. Advisor for 1 PhD thesis, 1 more PhD thesis is currently being prepared for defence.

Phone: +7 (473) 222-60-92
E-mail: korobeinikova@vsu.ru

Vice Rector for Strategic Administrative Management

Yuriy BUBNOV

DSc in Philosophy, Professor, Dean of the Faculty of Philosophy and Psychology, Head of the Department of History of Philosophy and Culture of the Faculty of Philosophy and Psychology. The author of 163 research papers and works. Advisor for 1 postdoctoral and 10 PhD theses.

Phone: +7 (473) 220-77-73
E-mail: bubnov@vsu.ru

Vice Rector for Student Affairs and Social Development

Oleg GRISHAEV

PhD in History, Associate Professor, Head of the Department of Contemporary Russian History, Historiography, and Records Management. The author of over 100 research papers and works. Advisor for 1 PhD theses.

Phone: +7 (473) 239-06-86
E-mail: grishaev@vsu.ru

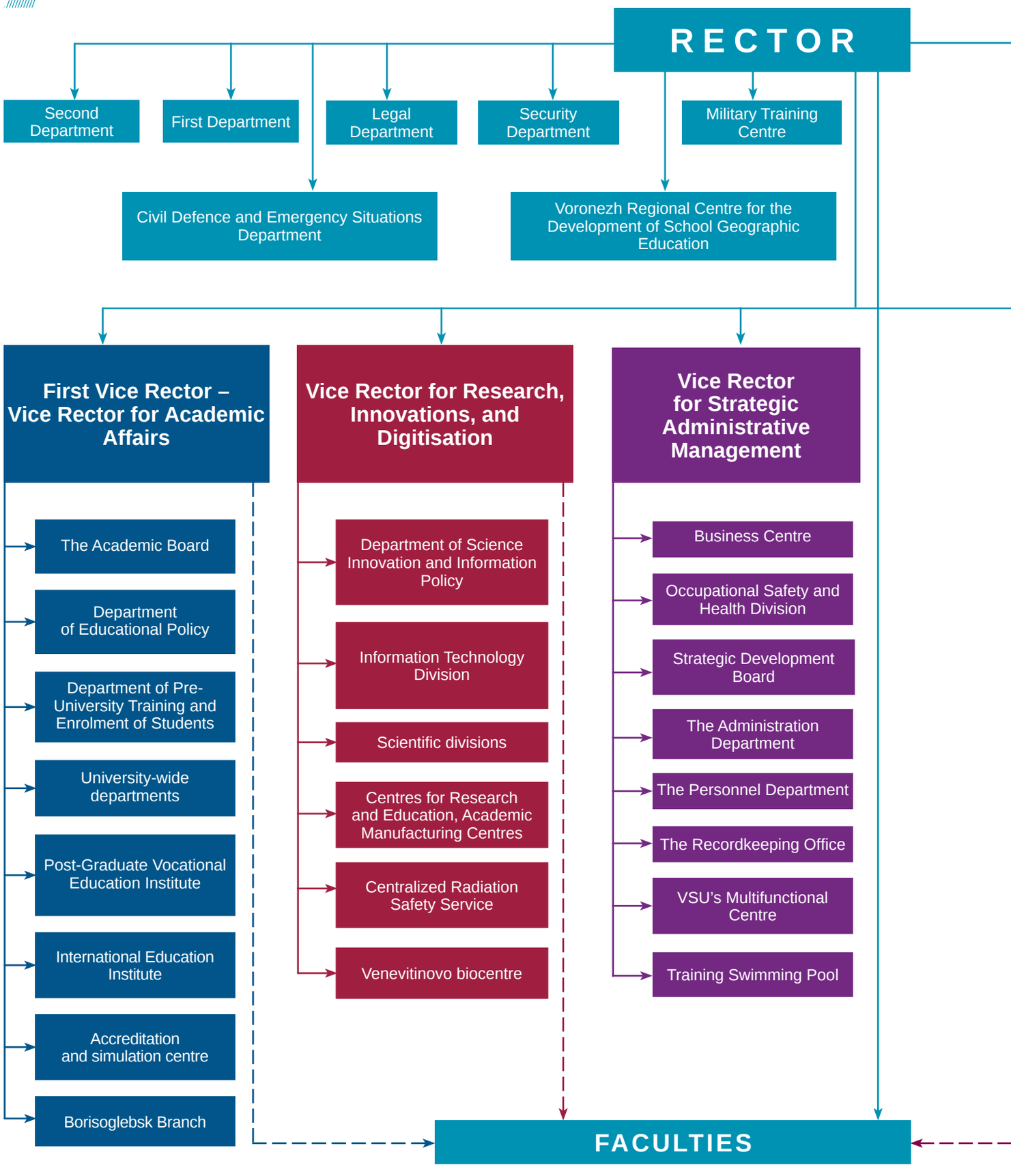
Vice Rector for Facilities and Capital Development

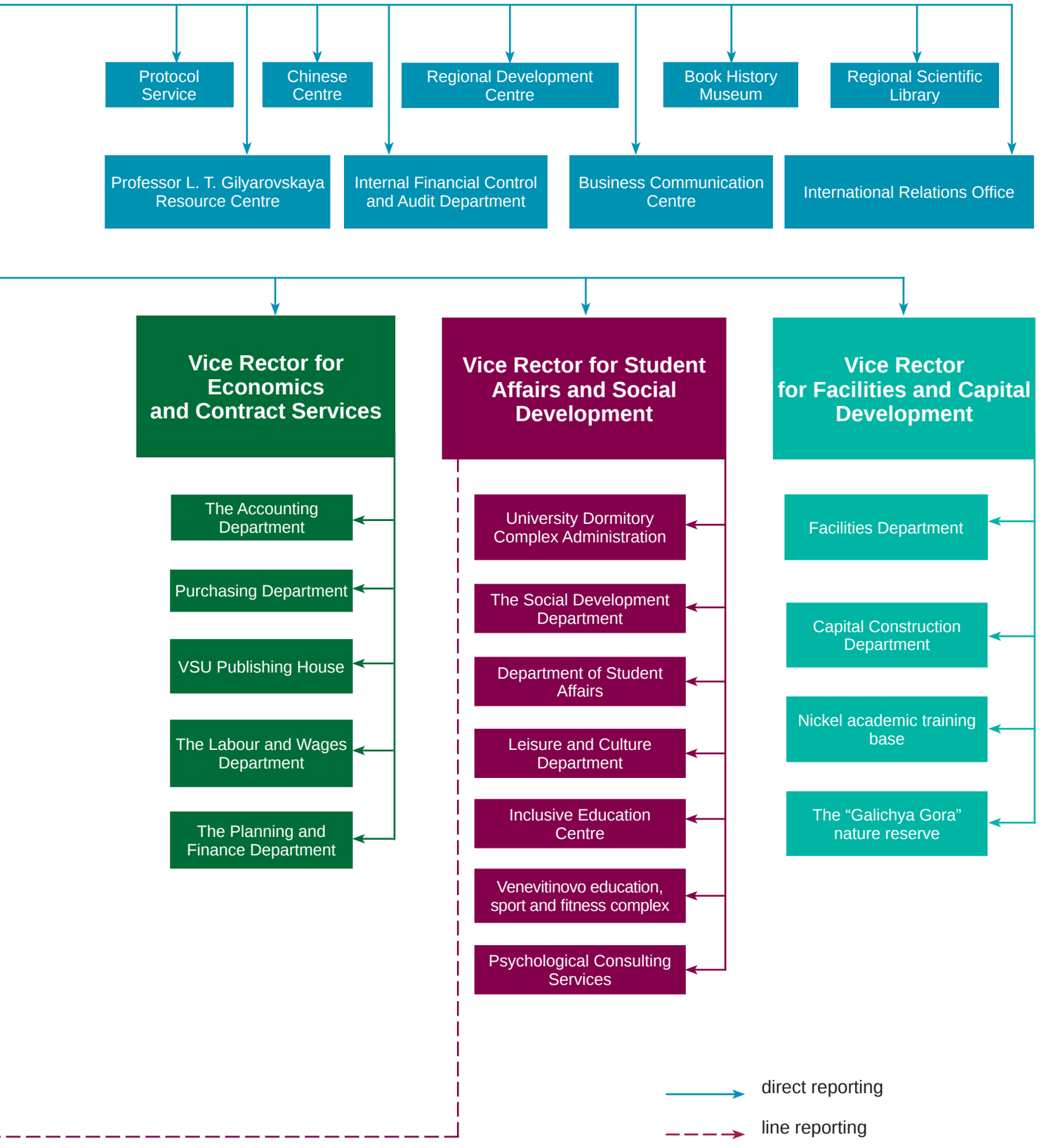
NIKOLAI BRYANTSEV

Area of expertise – industrial and civil construction. Over 20 years of experience in the sphere.

Phone: +7 (473) 220-75-18
E-mail: bryantsev@vsu.ru

2.4. THE GENERAL STRUCTURE OF VORONEZH STATE UNIVERSITY

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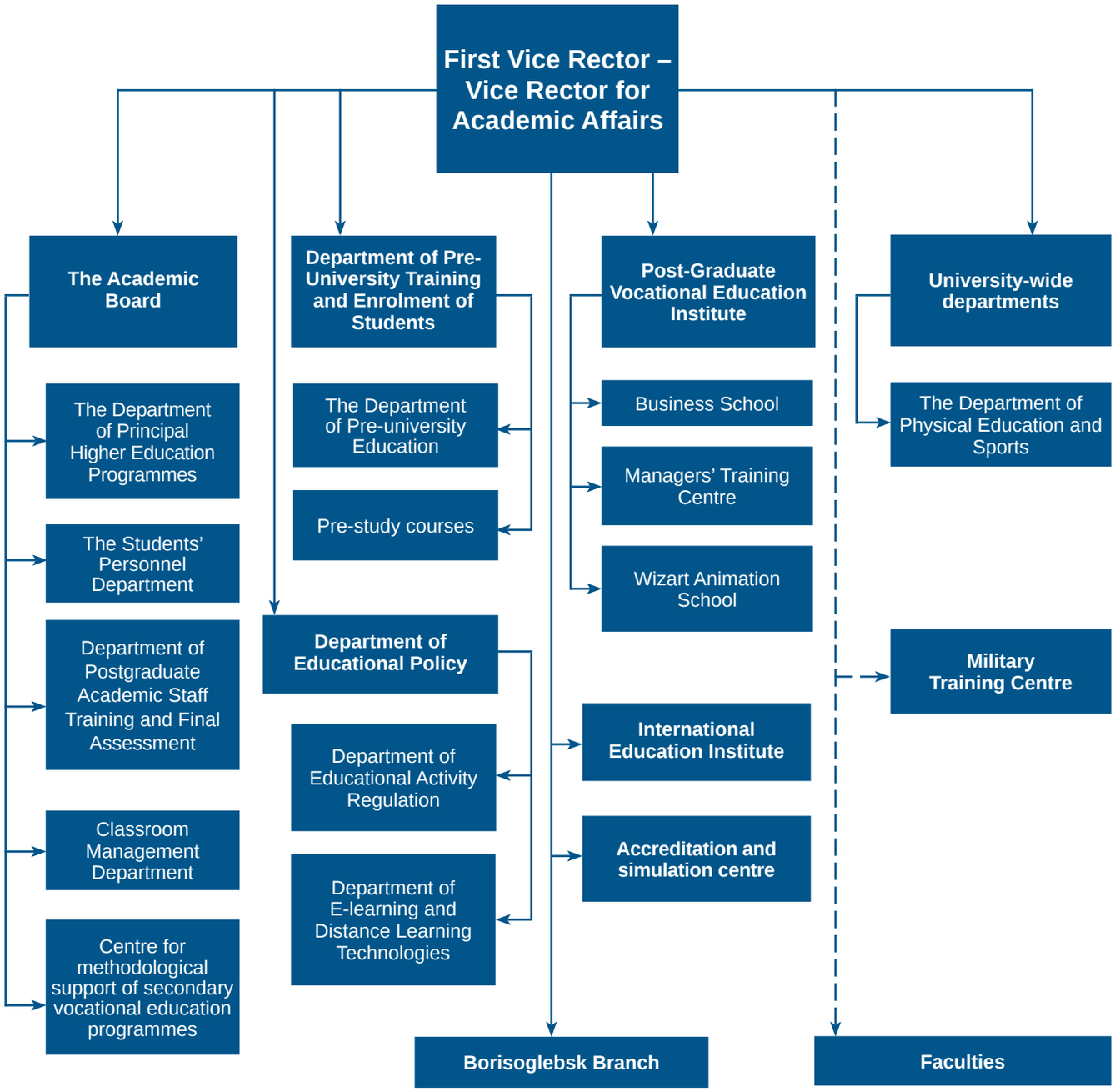
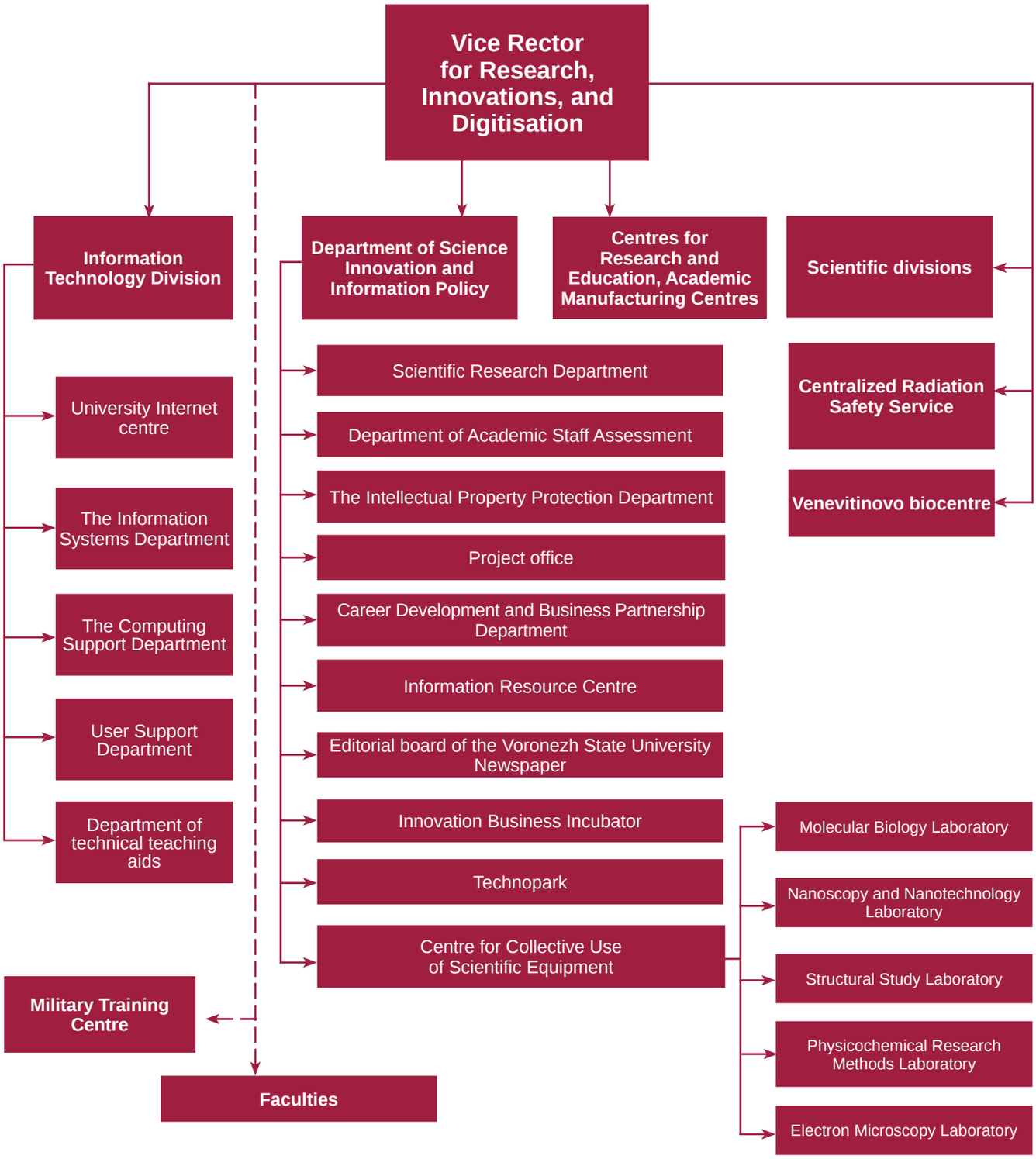
Chinese Centre
Regional Development Centre
Book History Museum
Regional Scientific Library
Professor L. T. Gilyarovskaya Resource Centre
Internal Financial Control and Audit Department
Business Communication Centre
International Relations Office
Vice Rector for Economics and Contract Services
Vice Rector for Student Affairs and Social Development
Vice Rector for Facilities and Capital Development
The Accounting Department
Purchasing Department
VSU Publishing House
The Labour and Wages Department
The Planning and Finance Department
University Dormitory Complex Administration
The Social Development Department
Department of Student Affairs
Leisure and Culture Department
Inclusive Education Centre
Venevitinovo education, sport and fitness complex
Psychological Consulting Services
Facilities Department
Capital Construction Department
Nickel academic training base
The “Galichya Gora” nature reserve
direct reporting
line reporting

2.3

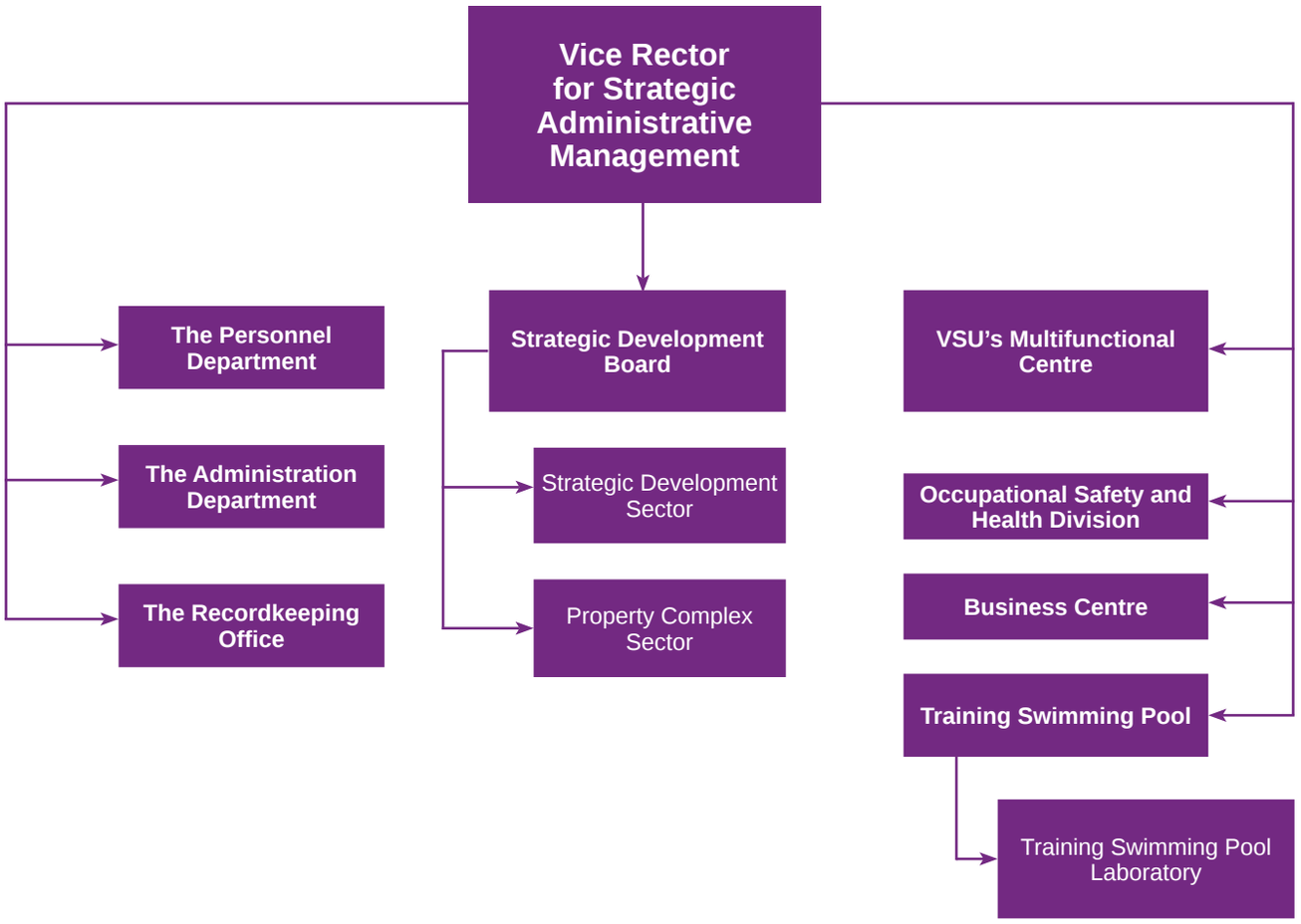
MANAGEMENT STRUCTURE OF THE FIRST VICE RECTOR – VICE RECTOR FOR ACADEMIC AFFAIRS



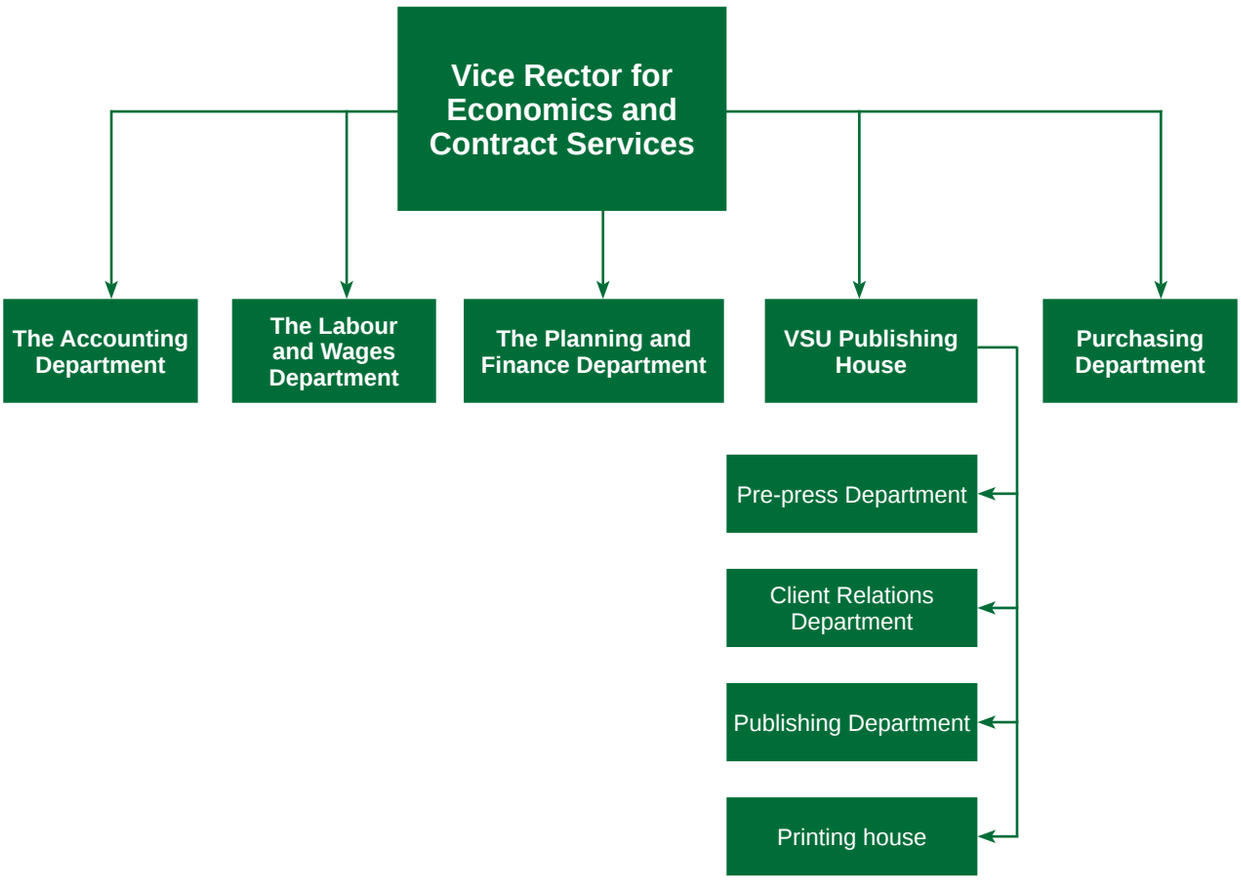
2.6. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR RESEARCH, INNOVATIONS, AND DIGITISATION



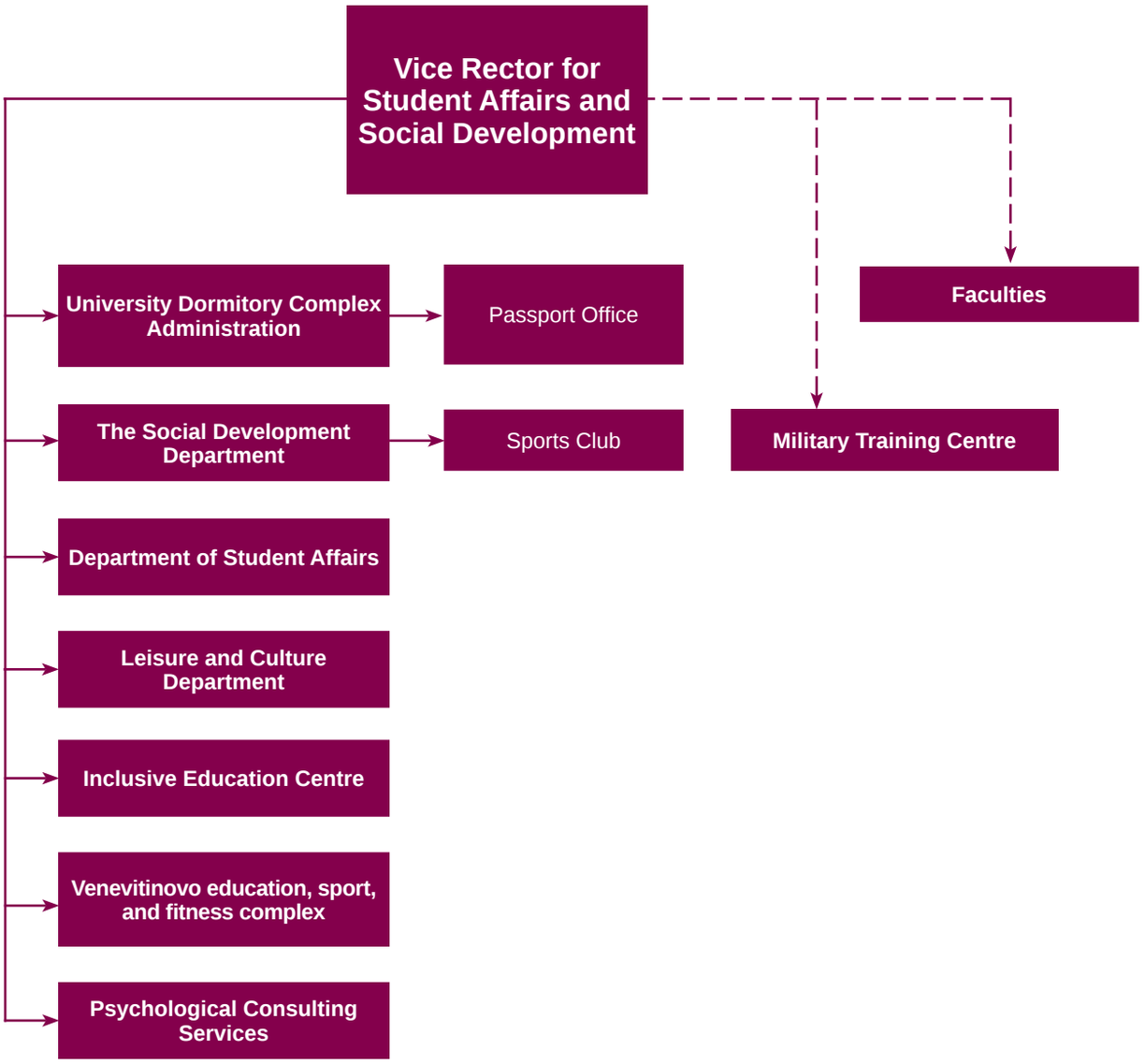
2.7. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR STRATEGIC ADMINISTRATIVA MANAGEMENT



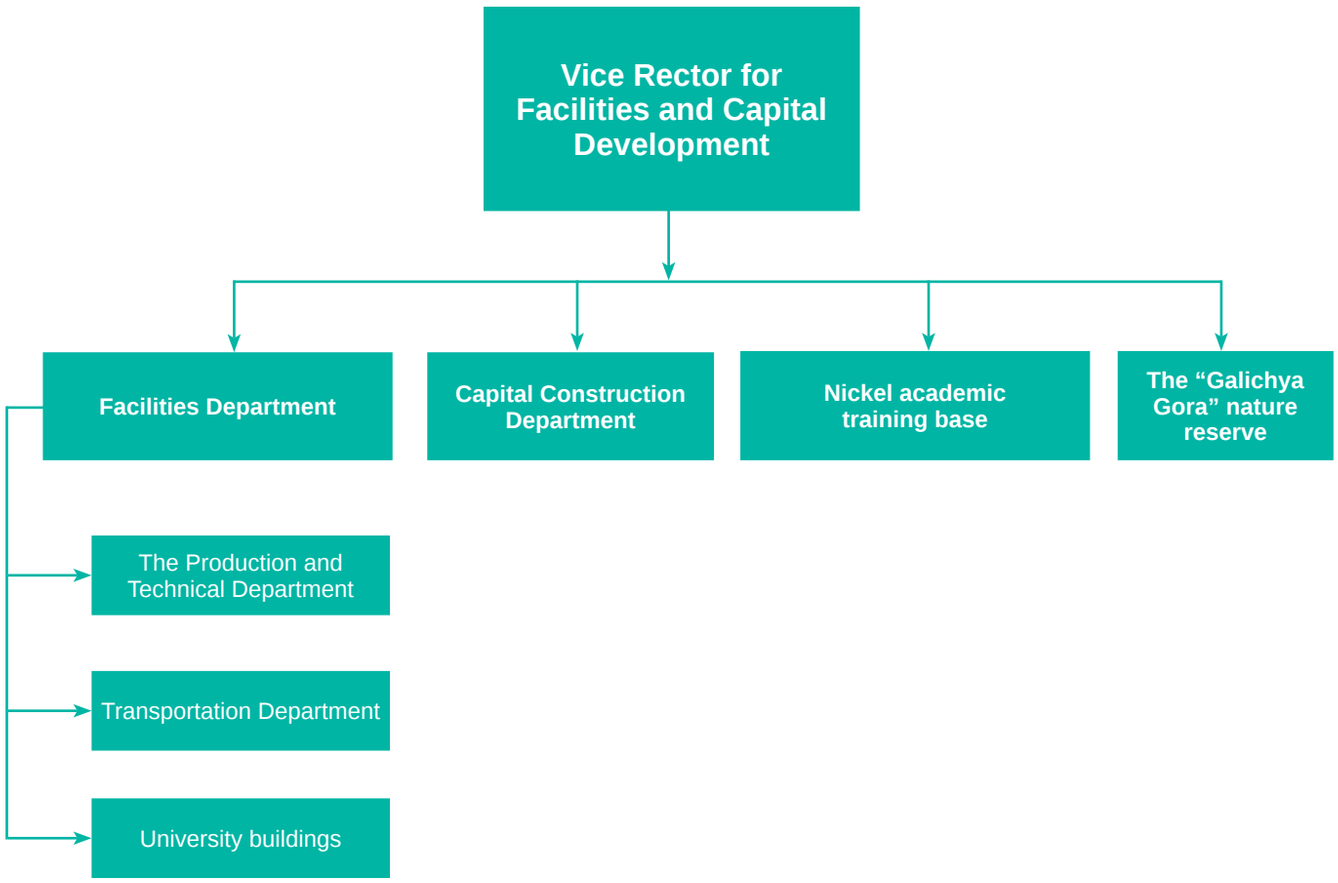
2.8. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR ECONOMICS AND CONTRACT SERVICES



2.9. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR STUDENT AFFAIRS AND SOCIAL DEVELOPMENT



2.10. MANAGEMENT STRUCTURE OF THE VICE RECTOR FOR FACILITIES AND CAPITAL DEVELOPMENT



2.11. FACULTIES AND INSTITUTES

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FACULTY OF MATHEMATICS

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FACULTY OF BIOMEDICAL SCIENCES

Dean **Tatiana POPOVA**
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MILITARY TRAINING CENTRE

Head **Yuriy KORENCHUK**
Phone: +7 (473) 255-15-97 E-mail: korenchuk@mil.vsu.ru

FACULTY OF GEOGRAPHY, GEOECOLOGY, AND TOURISM

Dean **Semyon KUROLAP**
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FACULTY OF JOURNALISM

Dean **Vladimir TULUPOV**
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FACULTY OF COMPUTER SCIENCES

Acting Dean **Alexander KRYLOVETSKY**
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FACULTY OF INTERNATIONAL RELATIONS

Dean **Oleg BELENOV**
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FACULTY OF APPLIED MATHEMATICS, INFORMATICS, AND MECHANICS

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FACULTY OF ROMANCE AND GERMANIC PHILOLOGY

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FACULTY OF LAW

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Director **Igor SVERTKOV**
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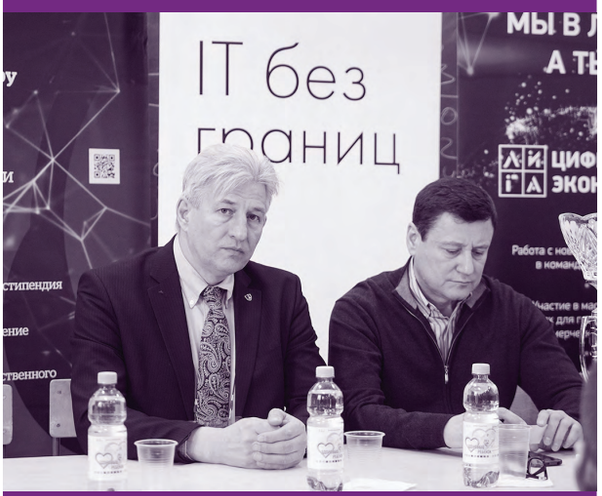
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UNIVERSITY STRATEGIC DEVELOPMENT

3

3

UNIVERSITY STRATEGIC DEVELOPMENT

Yury BUBNOV,
Vice Rector for Strategic Administrative Management

3.1. TASKS AND EVENTS AS PART OF VSU'S STRATEGY

The university's strategic development programme is underpinned by the documents issued by the Ministry of Science and Higher Education, as well as the regional development strategy. The purpose of the programme is to develop the university to attain a leading role in the Russian Federation and at the international level. Like any major document, the development strategy is elaborated by a working group consisting of the heads of the main departments of the university.

The university's strategic development is carried out in accordance with the following policy documents:

- The revised VSU Strategy (approved by the Academic Council until 2030, Record No. 7 of 29 September 2017).
- The Program of VSU's transformation into Voronezh Regional University Centre for Innovative, Technological, and Social Development (approved on 26 September 2017; the status obtained on 14 December 2017).
- The "roadmap" of events aimed at VSU's transformation into Voronezh Regional University Centre, as well as meeting the target performance indicators (as part of the Transformation Program).
- VSU Project Map (revised annually).

The mission of VSU as a leading classical university is to make a valuable contribution to national and regional development, drawing upon the best traditions of the national system of education, and combining scientific, humanitarian, and social knowledge, advanced fundamental and applied research, high innovative potential, and integration with international research and the educational framework. VSU positions itself as a scientific, educational, innovative, and cultural centre that trains highly-qualified and eminently employable specialists.

The University's Strategic Aim is to retain and strengthen its leadership in the Central Black Earth Region and among the leading Russian universities in all areas of activity.

The key tasks and events are:

1. Modernising higher education academic programmes:

- Implementing internationally competitive academic programmes in Biomedicine, Physics, Chemistry, Earth Sciences, Computer Sciences, and Social Sciences.
- Expanding the number and range of academic exchange and double-degree programmes.
- Launching new academic programmes for English-speaking students.
- Introducing social and technology-oriented entrepreneurship modules into the academic programmes.
- Increasing the number of fundamental departments and disciplines with the participation of potential employers.

2. Developing further education programmes:

- Opening new university-based corporate training centres.
- Developing internationally competitive business education programs.
- Launching new social and technology-oriented entrepreneurship programs.
- Implementing further education programmes through the university's Electronic Education System.
- Collaborating with organisations working in the area of employment assistance and entrepreneurship development.

In 2021, 2 new further education programmes were opened.

3. Intensifying pre-university training and social work:

- Supporting and developing student and graduate communities.
- Implementing educational projects for schoolchildren and the general public.
- Finding, supporting, and attracting talented students to study at VSU; implementing social projects and initiatives.

4. Enhancing research outputs:

- Supporting the grant and research activities of the university's scholars.
- Increasing the university's participation in international research projects.
- Collaborating with the business community to take part in innovative technological projects.
- Organisational and informational support of the scholars' academic mobility.

5. Integrating with the regional system of innovative development:

- Collaborating with regional and federal institutions for innovative development.
- Promoting the university as the core of the regional expert community.
- Introducing the elements necessary to pre-accelerate and accelerate innovations.
- Developing the student business communities.
- Promoting university-based small innovative enterprises.
- Expanding the number and scale of innovation facilities.
- Supporting initiatives aimed at expanding the information infrastructure of innovative development.

6. Increasing the motivation and competencies of the university's personnel:

- Continuous improvement of the criteria for the effective contract for faculty members and senior management.
- Hiring leading Russian and international researchers and lecturers.
- Supporting young scholars and lecturers and aiding in their professional development.

The tasks and events for the 2017-2021 strategic development are detailed in the Program for VSU's transformation into Voronezh Regional University Centre for Innovative, Technological, and Social Development.

3.2. ACHIEVEMENT OF TARGET PARAMETERS IN 2021

The VSU Strategy, approved by the Academic Council on 29 September 2017, sets the university's development indicators until 2030. Table 3.1 presents the key performance indices in the reporting year of 2021 compared to those for 2019 and 2020, as well as those planned for 2021.

Table 3.1

KEY INDICATORS OF VSU'S DEVELOPMENT IN 2021

Indicator	Key indicators of VSU's development in 2021	2020 (factual)	2021 (planned)	2021 (factual)
Educational activity				
The number of students enrolled in bachelor's, specialist's, and master's degree programmes	17,532	16,470	18,100	18,217
The total number of postgraduate students	558	544	580	522
The percentage of students in master's degree and postgraduate programmes in the total number of the given contingent, %	18	16	21	14
The percentage of international students enrolled in bachelor's, specialist's, and master's degree programmes, in the given contingent, %	3.84	5.6	6.1	5.87
The percentage of international postgraduate students, %	11.8	12.3	10.5	12.4
The number of winners of national and international academic contests who enrolled in full-time bachelor's degree and diploma degree (specialist) study programmes	1	1	3	0
Scientific Research and Innovative Activity				
The total amount of R&D in the reporting year, million roubles	293.5	220.5	270	327.1
Income from R&D per faculty member, thousand roubles	199	170.4	195.4	209
Total amount obtained in the reporting year from the Russian state foundations supporting scientific and technical research and innovations, million roubles	121.81	121.05	95	142.43
The number of publications in Web of Science in the reporting year per 100 academic staff members	24.34	24.26	20.6	19.6
The number of publications in Scopus in the reporting year per 100 academic staff members	31.25	40.65	28.9	33.73
The number of citations of the publications issued in the last five years, indexed in Web of Science in the same period	2777	3562	2400	4032
The number of citations of the publications issued in the last five years, indexed in Scopus in the same period	3525	3605	3050	2475
The number of publications made in collaboration with foreign scholars, according to Web of Science and Scopus, in the reporting year	85	89	75	90
The number of doctoral and PhD dissertations defended at VSU dissertation boards	94	53	130	55
University staff members				
The total number of the regular FTE staff members as of the end of the reporting period	1409	1294	1282	1289
The total number of regular academic staff members as of the end of the reporting period	66	48	100	49
The share of the academic staff members having a PhD or a DSc degree, %	75.14	73.68	77	73.3
The share of foreign citizens as a percentage of the total number of academic staff members, %	0.07	0.14	0.5	0.06
The number of academic staff members who are foreign citizens	1	2	6	1

Abbreviations: R&D – research and development, FTE – Full Time Equivalent

Notes: Web of Science and Scopus are the two most influential databases used internationally to assess research output.

It should be noted that there was no growth in the total number of regular research staff members as of the end of the reporting year, which is indicative of a decrease in the number of grants obtained by faculty members (possible reasons: small number of applications submitted to grant contests and increasingly complicated procedures of obtaining grants).

Some indicators for 2021 dipped slightly, which can be explained by the coronavirus situation, as well as a decrease in funding for projects from state funds and commercial structures due to the unfavourable economic situation in the country.

3.3. VSU's PERFORMANCE IN INTERNATIONAL AND NATIONAL UNIVERSITY RANKINGS

Voronezh State University's position in national and international rankings can be seen in Table 3.2.

Table 3.2

VSU'S POSITIONS IN NATIONAL AND INTERNATIONAL RANKINGS

Name of the ranking	2021[3]
Interfax National University Rating:	23
Education	14
Research	22
Socialisation	58
Internationalisation	32
Brand	33-34
Innovations	35
International ranking of the best universities published by Forbes	47
Independent ranking of media activities of Russian universities published by the Ministry of Education and Science of the Russian Federation	56
Russian universities' publication activity rating ("Expert RA")	34-36
Ranking of the most influential Russian universities published by RAEX	52
Top Russian universities:	
Mathematics and natural sciences	32
Engineering	48
Top-100 universities in Russia ("RA Expert")	45
Research	28
Education quality	44
Employers' demand for graduates;	65
Ranking of classical universities "National Recognition"	16
"National Recognition" ranking of Russian universities	36
Top Russian universities, according to the Vladimir Potanin Foundation	24
International ranking "Three university missions"	1201-1300
Ranking of Russian universities by the salaries of young specialists, according to Superjob:	
Economic universities	14
Law universities	9
Ranking of English-language versions of Russian university websites 2020	18
The rating of the most popular universities in the Russian Federation (Ministry of Education of the People's Republic of China)	15
Academic Ranking of World Universities (ARWU)	1001+
Quacquarelli Symonds (QS) World University Ranking	1001-1200
Quacquarelli Symonds (QS): BRICS	139
Quacquarelli Symonds (QS): Emerging Europe & Central Asia	192
Times Higher Education (THE) World University Ranking	1201+
Times Higher Education (THE) World University Ranking by subject: physical sciences	1001+
Times Higher Education (THE) BRICS & Emerging Economies University Rankings	501+
Times Higher Education (THE) Best Universities in Europe	475

End of table 3.2

Name of the ranking	2021*
Times Higher Education (THE) University Impact Rankings:	601-800
No Poverty	401+
Good Health and Wellbeing	401-600
Quality Education	601-800
Gender Equality	201-300
Clean Water and Sanitation	401+
Affordable and Clean Energy	401+
Decent Work and Economic Growth	201-300
Industry, Innovation, and Infrastructure	301-400
Reduced Inequalities	401-600
Sustainable Cities and Communities	601+
Responsible Consumption and Production	301-400
Climate Action	301-400
Life on Land	301-400
Peace, Justice, and Strong Institutions	301-400
Partnership for the Goals	801-1000
SCImago Institutions Ranking (SIR):	617
Societal percentile	57
Innovation percentile	73
Research percentile	89
University Ranking by Academic Performance (URAP)	2721 (RF: 35)
Webometrics Ranking of World Universities	2267 (RF: 35)
UniRank World Universities	1418 (RF: 26)
Round University Ranking (RUR):	633 (RF: 30)
Life Sciences	517 (RF: 21)
Medical Sciences	545 (RF: 28)
Natural Sciences	567 (RF: 39)
Social Sciences	587 (RF: 28)
Humanities	455 (RF:16)
Technical Sciences	598 (RF: 35)
Round University Ranking (RUR) Reputation Ranking	567 (RF: 37)
Round University Ranking (RUR) Academic Ranking	718 (RF:46)
UI GreenMetric World University Ranking:	237 (RF: 7)
Setting and Infrastructure	351 (RF: 16)
Energy and Climate Change	262 (RF: 8)
Waste	222 (RF: 5)
Water	373 (RF: 10)
Transportation	284 (RF: 18)
Education	194 (RF: 7)
Academic Ranking of World Universities – European Standard (ARES)	AA
Worldwide Professional University Ranking (RankPro)	496 (RF: 21)

* For global rankings, the position in the world and in Russia is provided.

3.4. INFORMATION ON PASSING THE UNIVERSITY EFFICIENCY MONITORING

The Ministry of Education and Science of the Russian Federation holds annual monitoring of the performance of state higher education institutions in order to ensure systematic, standardised monitoring of education and the dynamics of changes in its results, as well as the conditions for educational activities. According to the results of the performance monitoring in 2021, Voronezh State University was included in the group of institutes that achieved at least 4 performance indicators (Table 3.3, Figure 3.1).

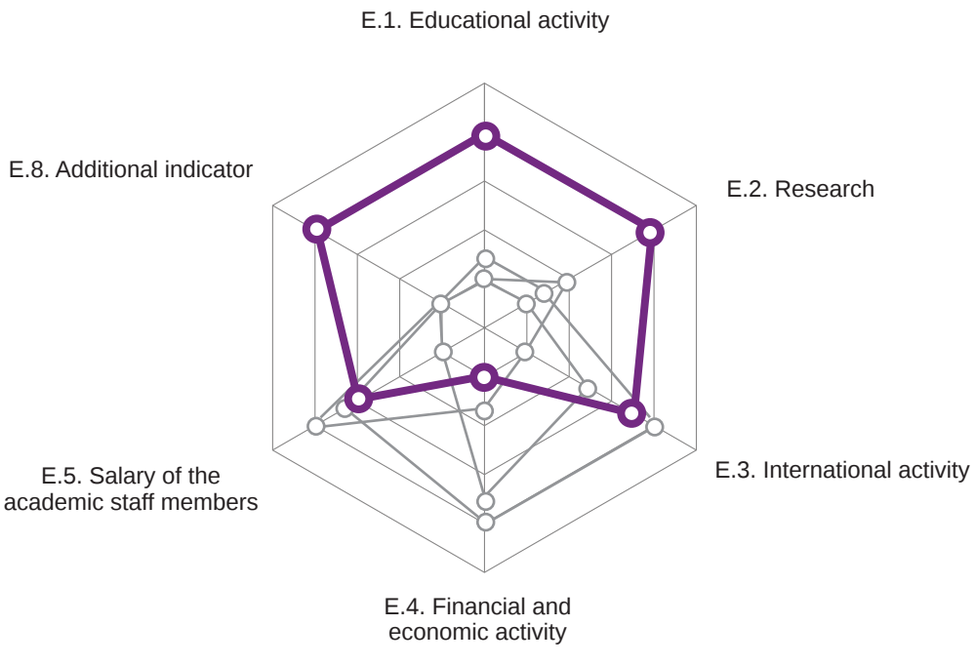
Table 3.3

VSU'S POSITION ON KEY EFFICIENCY MONITORING INDICATORS COMPARED TO THE THRESHOLD VALUES

No.	Name of the indicator	Values	Threshold value	Prior Year Adjustment
E.1	Educational activity	69.92	60	+2% (68.24)
E.2	Research	139.98	51.28	-29.8% (187.66)
E.3	International activity	6.67	1	+56.2% (3.74)
E.4	Financial and economic activity	2153.54	1327.57	+0.5% (2056.38)
E.5	Salary of the academic staff members	213.67	N/A	+0.4% (209.56)
E.8	Additional indicator	5.38	2.78	-3.1% (5.51)

Figure 3.1

VSU'S POSITION COMPARED TO THE THRESHOLD VALUES



The results of the effectiveness monitoring clearly indicate the high quality of education, as well as effective innovation and research activities.

3.5. HUMAN RESOURCES

The high-priority areas of the human resources policy of the university are:

- Ensuring the required number of academic, educational support, and administrative personnel.
- Creating the conditions necessary for the personal fulfilment and professional development of all employees.
- Supporting young scholars and postgraduate students.
- Supporting initiatives in the area of education.
- Raising the university employees' motivation and commitment levels.
- Creating a continuous system of professional development and improvement of the mechanisms for organising professional retraining and advanced training of university employees.
- Forming the university's personnel reserve and making efficient use of it.
- Introducing methods for talent management at the university using information technologies and automated systems.
- Digitising the HR record management.
- Creating a psychologically comfortable environment in the workplace.

Key quantitative characteristics for the supply of university staff members as of 31 December 2021 (figures 3.2, 3.3):

- total number of employees **2798 people**

Of them:

- **1,510** academic staff
- **672** educational support personnel
- **169** scientific and engineering personnel
- **159** operating personnel
- **288** administrative and managerial staff

Figure 3.2

TOTAL NUMBER OF STAFF MEMBERS IN 2019-2021

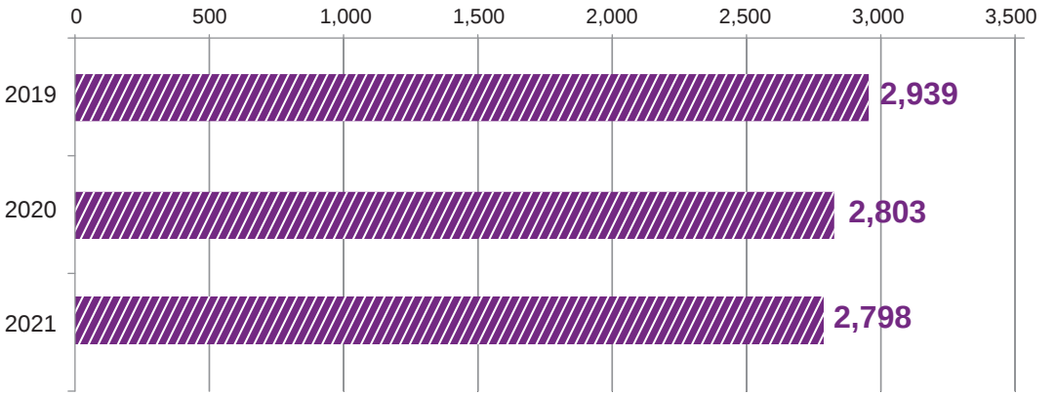
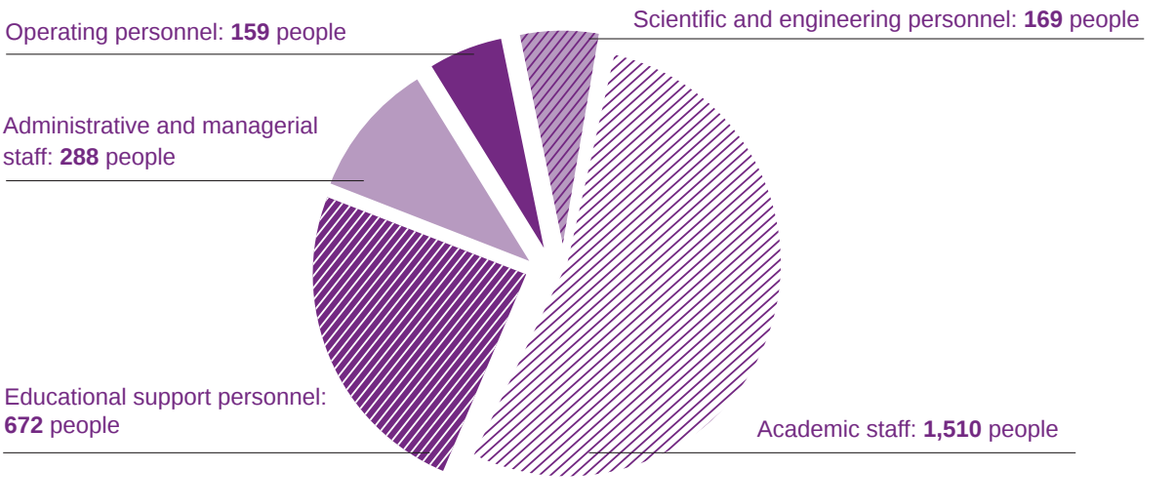


Figure 3.3

COMPARISON OF THE NUMBERS OF STAFF MEMBERS BY FUNCTION IN 2021



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Quantitative and qualitative indicator dynamics in the university staff composition in total in 2019-2021 is shown in table 3.4.

Table 3.4

NUMBER AND COMPOSITION OF THE UNIVERSITY PERSONNEL IN 2019-2021

The university staff composition	2019	2020	2021
Total number of employees	**2,939**	**2,803**	**2,798**
Academic Staff	1,473	1,504	1,510
Including: total number of staff with a degree	1,102	1,101	1,107
DSc	293	283	287
PhD	809	818	820
Educational support personnel	707	688	672
Administrative and managerial personnel	302	288	288
Scientific and engineering personnel	203	157	169
Operating personnel	254	166	159

The analysis of the composition of the university staff demonstrates that 73.3% of the total number of the academic staff members have an academic degree (1,107 people). There are 287 staff members with a DSc degree (19%). The results of the analysis of the academic staff numbers are shown in Figures 3.4–3.8 and in tables 3.5–3.8.

Figure 3.4

COMPARISON OF THE NUMBERS OF ACADEMIC STAFF MEMBERS IN 2019-2021

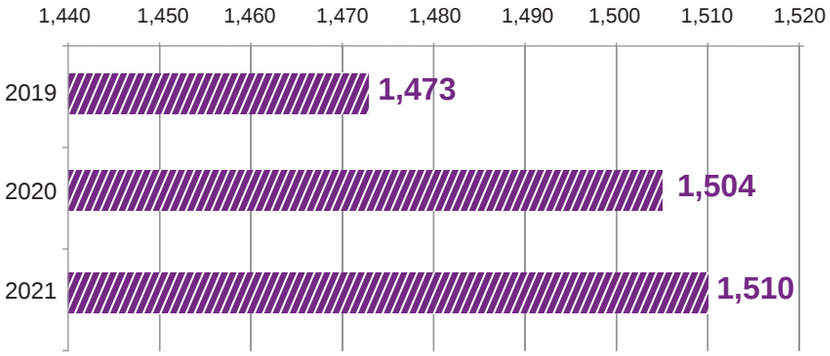


Figure 3.5

DISTRIBUTION OF THE ACADEMIC STAFF BY POST AS OF 1 JANUARY 2022

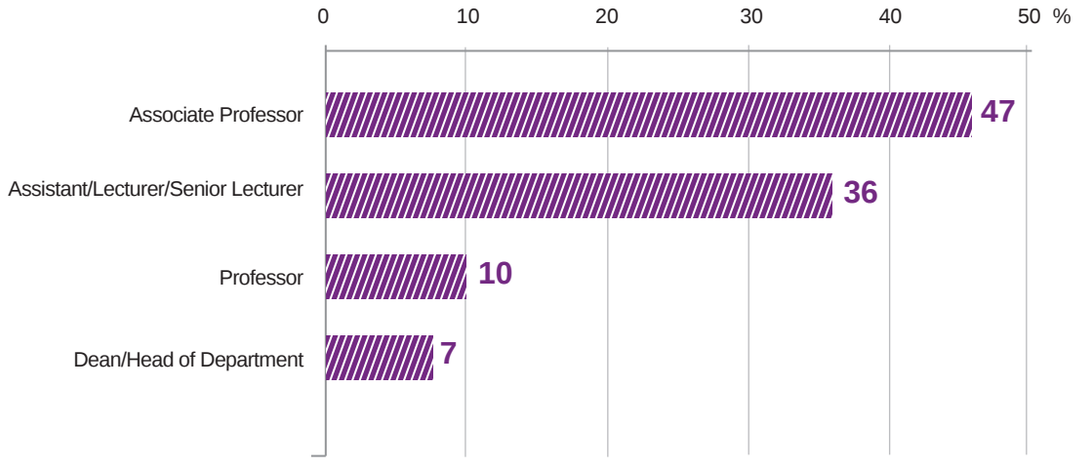


Figure 3.6

DISTRIBUTION OF THE NUMBER OF TEACHING STAFF BY ACADEMIC DEGREE

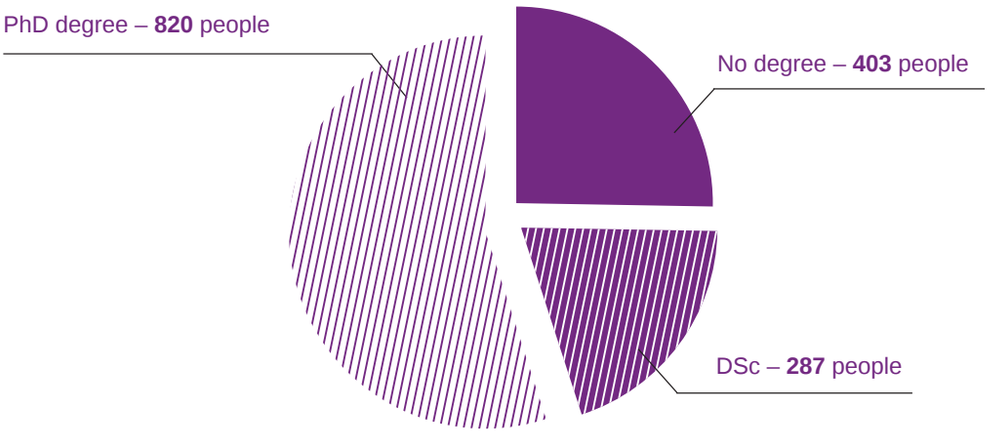


Figure 3.7

THE NUMBER OF ACADEMIC STAFF MEMBERS OF FACULTIES, INSTITUTES, AND UNIVERSITY-WIDE DEPARTMENTS AS OF 1 JANUARY 2022

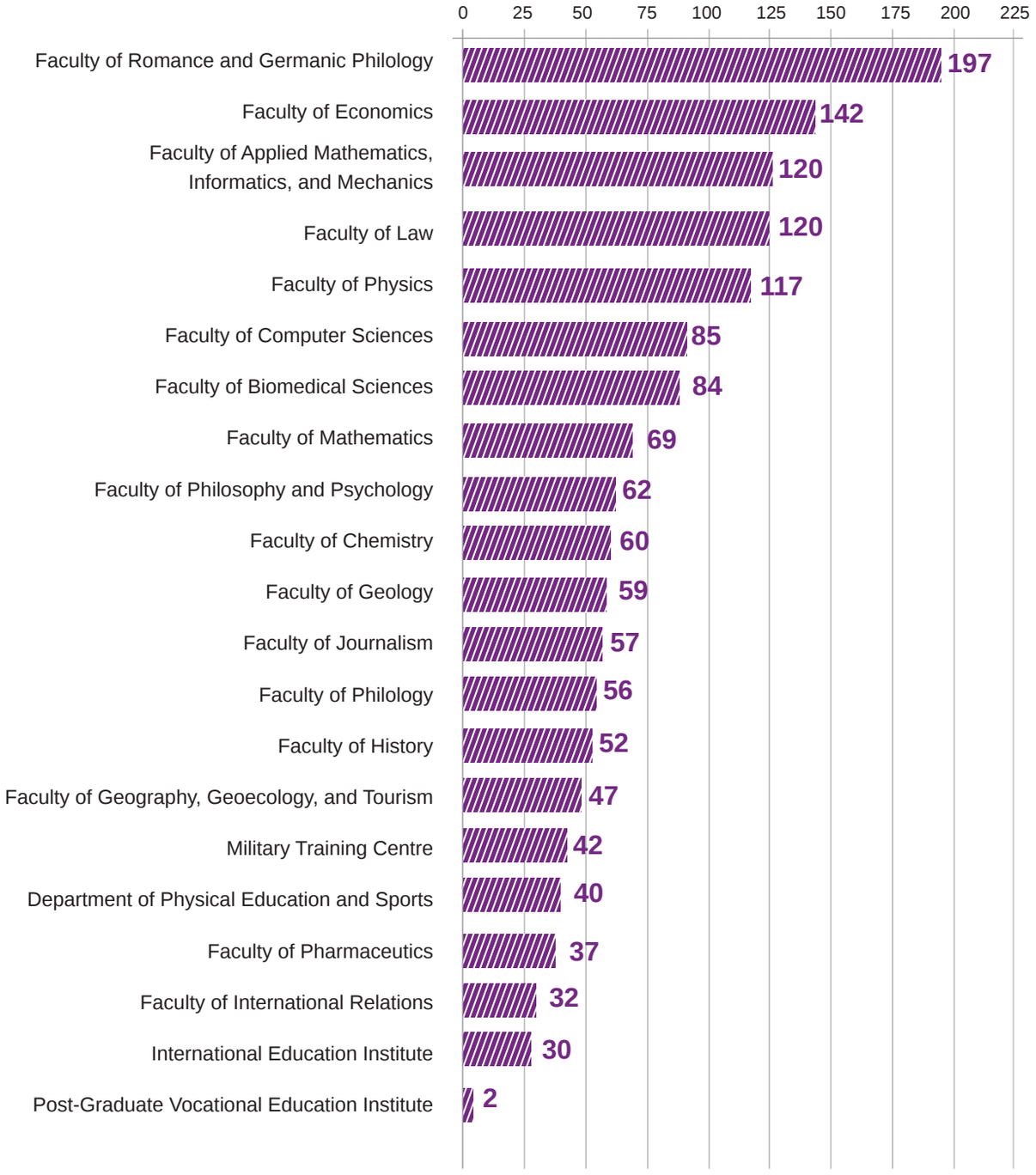


Figure 3.8

COMPARISON OF THE NUMBERS OF ACADEMIC STAFF MEMBERS WORKING FULL-TIME AND PART-TIME IN 2021

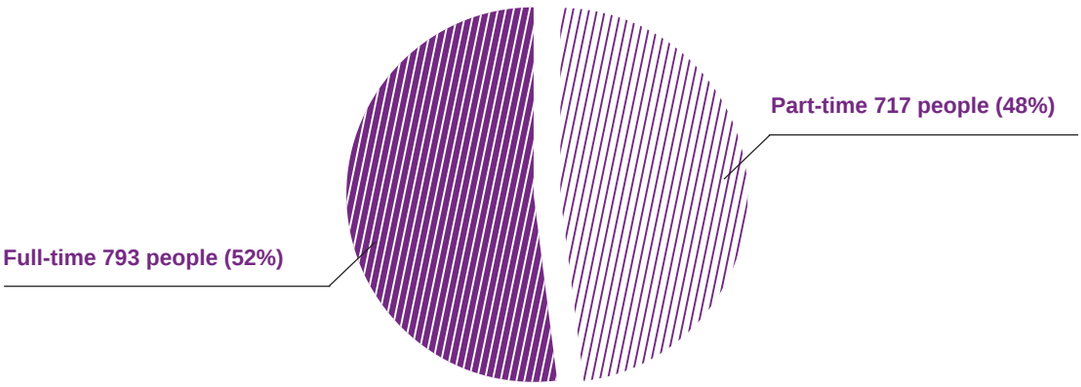


Table 3.5

THE NUMBER OF ACADEMIC STAFF MEMBERS OF FACULTIES, INSTITUTES, AND UNIVERSITY-WIDE DEPARTMENTS AS OF 1 JANUARY 2022

Structural subdivision	The number of academic staff members	
	Total	Full-time
Military Training Centre	42	40
Faculty of Geology	59	12
Post-Graduate Vocational Education Institute	2	–
International Education Institute	30	30
Faculty of History	52	28
Department of Physical Education and Sports	40	35
Faculty of Mathematics	69	28
Faculty of Biomedical Sciences	84	54
Faculty of Geography, Geoecology, and Tourism	47	26
Faculty of Journalism	57	28
Faculty of Computer Sciences	85	38
Faculty of International Relations	32	17
Faculty of Applied Mathematics, Informatics, and Mechanics	120	49
Faculty of Romance and Germanic Philology	197	101
Faculty of Philosophy and Psychology	62	34
Faculty of Pharmaceutics	37	27
Faculty of Physics	117	43
Faculty of Philology	56	19
Faculty of Chemistry	60	19
Faculty of Economics	142	80
Faculty of Law	120	85
Total	**1,510**	**793**

Table 3.6

THE DISTRIBUTION OF THE ACADEMIC STAFF BY FACILITY, INCLUDING THE PERCENTAGE OF STAFF MEMBERS WITH A PHD AND DSC DEGREE

Structural subdivision	Total number of people	PhD, %	DSc, %
Military Training Centre	42	9.5	0.0
Faculty of Geology	59	64.4	22.0
Post-Graduate Vocational Education Institute	2	50.0	0.0
International Education Institute	30	46.7	0.0
Faculty of History	52	63.5	25.0
Department of Physical Education and Sports	40	5.0	0.0
Faculty of Mathematics	69	53.6	23.2
Faculty of Biomedical Sciences	84	65.5	25.0
Faculty of Geography, Geoecology, and Tourism	47	66.0	14.9
Faculty of Journalism	57	64.9	14.0
Faculty of Computer Sciences	85	47.1	15.3
Faculty of International Relations	32	71.9	18.8
Faculty of Applied Mathematics, Informatics, and Mechanics	120	53.3	23.3
Faculty of Romance and Germanic Philology	197	49.7	9.1
Faculty of Philosophy and Psychology	62	54.8	25.8
Faculty of Pharmaceutics	37	37.8	10.8
Faculty of Physics	117	59.8	29.9
Faculty of Philology	56	60.7	25.0
Faculty of Chemistry	60	50.0	43.3
Faculty of Economics	142	62.0	18.3
Faculty of Law	120	60.8	19.2

Table 3.7

AGE AND ACADEMIC DEGREE OF THE ACADEMIC STAFF MEMBERS

Degree \ Age	Total	under 35	36 to 50	51 to 70	over 70
Total	**1,510**	**305**	**607**	**437**	**161**
Of them: Have a DSc degree	287	–	65	142	80
Have a PhD degree	820	124	419	211	66

Table 3.8

THE DISTRIBUTION OF ACADEMIC STAFF MEMBERS BY STRUCTURAL SUBDIVISION BY THE AVERAGE AGE

Structural subdivision	2019		2020		2021	
	Total number of people	Average age, years	Total number of people	Average age, years	Total number of people	Average age, years
Military Training Centre	37	51	42	49.8	42	51.1
Faculty of Geology	57	52	60	51.1	59	51.3
Post-Graduate Vocational Education Institute	2	57	2	58.0	2	59
International Education Institute	48	46	42	46.4	30	48.1
Faculty of History	56	50.7	54	49.6	52	49.9
Department of Physical Education and Sports	41	50	39	50.3	40	50.6
Faculty of Mathematics	62	52.3	65	50.8	69	50.1
Faculty of Biomedical Sciences	85	49.7	81	48.8	84	49.4
Faculty of Geography, Geoecology, and Tourism	47	48.7	48	49.3	47	47.8
Faculty of Journalism	52	49.3	52	50.3	57	49.8
Faculty of Computer Sciences	76	46.5	78	45.8	85	45.7
Faculty of International Relations	30	45.7	30	46.7	32	47.3
Faculty of Applied Mathematics, Informatics, and Mechanics	122	49.5	125	48.4	120	48.7
Faculty of Romance and Germanic Philology	183	47.3	193	46.9	197	46.6
Faculty of Philosophy and Psychology	53	49.9	64	49.2	62	49.6
Faculty of Pharmaceutics	34	41.6	37	40.1	37	37.9
Faculty of Physics	125	54.5	113	54.3	117	54.4
Faculty of Philology	49	53.9	56	52.4	56	52.5
Faculty of Chemistry	61	52.8	62	51.4	60	50.8
Faculty of Economics	145	48.8	142	49.6	142	49.2
Faculty of Law	108	46.2	119	45.6	120	46.0

The analysis of the age of the academic staff members in 2019-2021 demonstrates that the average age of the academic staff members in the University as a whole is:

- As of 31 December 2019, 49.4, whereas the percentage of employees at retirement age is 31.0%.
- As of 31 December 2020, 48.9, whereas the percentage of employees at retirement age is 28.3%.
- As of 31 December 2021, 48.2, whereas the percentage of employees at retirement age is 27.9%.

3.6. INFORMATION ON LEASES

In 2021, the Strategic Development Department continued to work on leasing federal real estate objects that are not used in educational activities, in order to ensure comfortable living conditions for students and university employees, as well as to optimise the property complex and attract additional extra-budgetary funds.

Over the past year, an assessment was carried out on the transfer of property for lease regarding 5 projects approved by the Ministry of Education and Science of Russia and TU Rosimushchestvo of the Voronezh Region. Lease agreements were signed for all of them.

In the reporting period, the income obtained from the federal real estate amounted to 6,181,249 roubles, which is, although higher than in 2020, still significantly lower than in previous years, due to the partial lifting of coronavirus restrictions, as well as decrees of the Ministry to support small businesses during the pandemic by reducing rental payments, which may be clearly seen in the dynamics of rental payments in figures 3.9 and 3.10.

Figure 3.9

MONTHLY PAYMENTS IN 2021

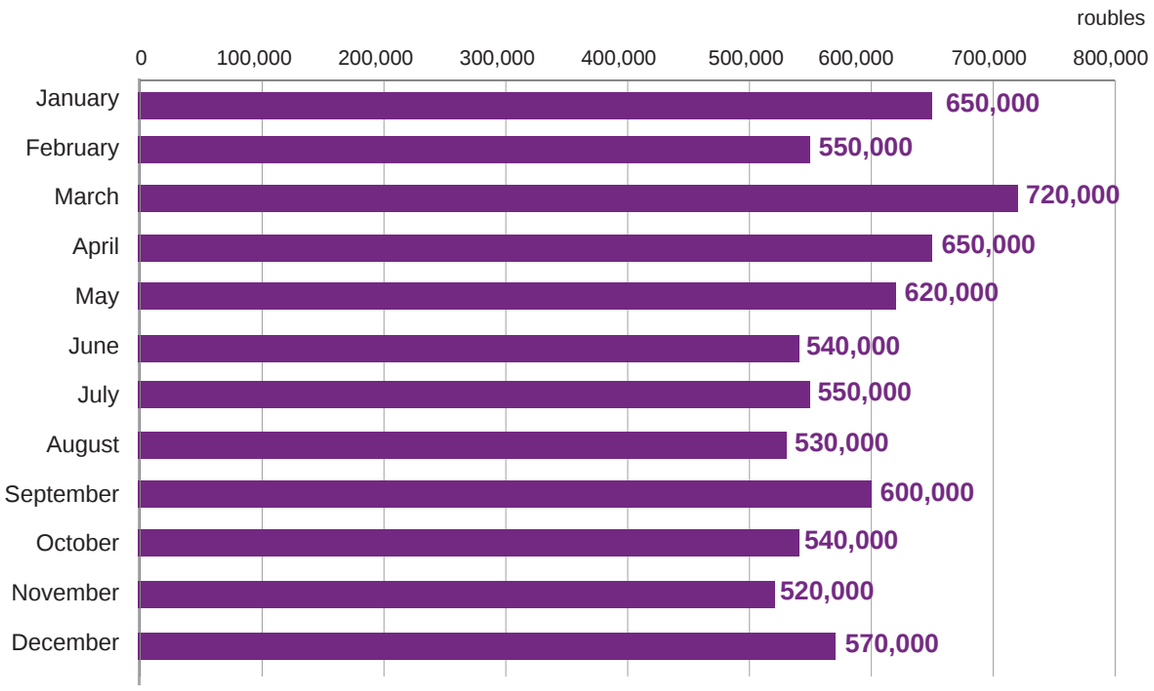
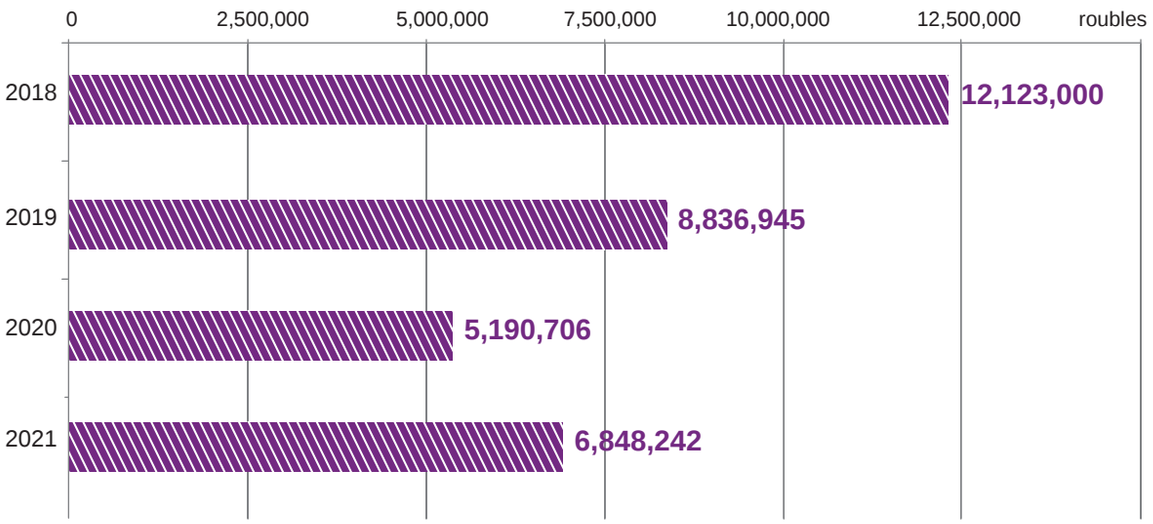


Figure 3.10

INCOME FROM THE PROPERTY COMPLEX IN THE LAST 4 YEARS



The income is used not only for the maintenance of the federal property, but also for updating the university's facilities.

In 2021, the university started the transfer of residential premises to the specialised housing stock, which will help to optimise the expenses for property maintenance services and unify the form of legal relations between the university and its employees regarding the corporate housing.

Therefore, the university has a dynamic approach to developing its leases, taking into account the needs of students and university employees, ensuring permanent control over the quality of goods and services provided by the tenant and striving to make use of the areas not involved in the educational process in full compliance with the current regulatory framework. In 2021, all appraised leases were being implemented.


«Воронежский государственный университет»
ФГБОУ ВО «ВГУ»
Среднее профессиональное образование

EDUCATION

4 EDUCATION

E. E. Chupandina,
First Vice-Rector –
Vice-Rector for Academic Affairs

4.1. THE MAIN OBJECTIVES OF THE UNIVERSITY'S ACADEMIC POLICY IN 2020/21

In the area of the main educational programmes:

- To ensure the implementation of all main higher education and secondary vocational education programmes in the format of blended learning based on e-learning and distance learning technologies.
- To ensure the development and implementation of at least one network programme with leading Russian and/or international universities and scientific/industrial organisations in each academic field/speciality.
- To develop and introduce into the educational process at least 1 MOOC for each academic field/speciality and to ensure the integration of MOOCs of third-party universities into the educational process within the corresponding academic field/speciality.
- To ensure the development and implementation of a programme aimed at preparing for the state accreditation of education programmes implemented at the university.
- To raise the percentage of foreign residents enrolled in the main education programmes at the faculties to 7%.
- To bring the percentage of students enrolled in employer-sponsored programmes in the given contingent of students within major groups of fields of study to 10%.

In the area of further education programmes:

- To open and implement further education programmes within all major groups of fields of study implemented at the university in close cooperation with employers.
- To increase the percentage of further education programmes implemented exclusively with distance learning technologies, up to 70%.

- To raise the percentage of students enrolled in further education programmes (including outside participants, VSU employees, and VSU students) in the given contingent of the academic field/speciality up to 7%.
- To raise the amount of funds received as a result of implementing further education programmes to 100 million roubles.

4.2. GENERAL INFORMATION ON TECHNOLOGIES AND MAIN STEPS OF PRE-UNIVERSITY WORK

In the reporting period, VSU's pre-university work was carried out in several key areas.

I. COLLABORATION WITH OTHER EDUCATIONAL ORGANISATIONS

1. VSU had regular e-mail correspondence with pre-school organisations (9), further education institutions (29), colleges (18), and schools from Voronezh and the Voronezh, Lipetsk, Orel, Tambov, Rostov, Kursk, Belgorod, and Moscow Regions (1,126 schools).
2. VSU continued active e-mail correspondence with schoolmasters, deputy schoolmasters for pupil affairs, subject teachers, educational psychologist, young teachers (1,080), parents (185), heads of school libraries (29), heads of school scientific societies formed in educational institutions and establishments of further education in Voronezh and the Voronezh Region (179), and authorised representatives from seven municipal districts of the Voronezh Region.
3. 27 events were organised and held in collaboration with education departments of Voronezh and 48 meetings were held with the heads of municipal districts of the Voronezh Region.
4. The university actively collaborated with the Department of Education, Science, and Youth Policy of the Voronezh Region, the Department of Education and Youth Policy of the Voronezh Government, Russian Classical School, and children's and youth public organisations.

   The information at career guidance stands was updated at 16 schools in Voronezh and the Voronezh Region. Cooperation with educational organisations within the project "Basic Schools of the Russian Academy of Sciences" (3 schools) was continued.

   The representatives of the admission board and vice-deans for the pre-university work participated regularly in person and online teacher-parent meetings at schools, joint events, and school scientific conferences. VSU organised open lectures with the participation of VSU researchers, as well as various festivals, master classes, and competitions, such as "With Books we Grow", "Rhetoric Festival", a reading competition "The Most Literate", a poetry workshop, festivals of the Russian language at schools and kindergartens, local history lessons, schools of young specialists, Lyceum Days, etc.).

VSU held the 7th Forum of Talented Children of the Voronezh Region, the 19th Scientific Conference of the Scientific Society "A Path into the World of Science" (lyceum No. 1, over 250 online participants), the city-wide competition for young researchers in various fields of science: Chemistry, Physics, Biology, and Geography, "Science Debut" (Novovoronezh Children Creativity Centre, 28 form 5–11 schoolchildren from four schools), and over 50 excursions for schools No. 19, 34, 73, 40, and 28. A project dedicated to the Year of Science in Russia, "Science for Children. Children for Science", was also implemented.

II. EDUCATIONAL PROJECTS FOR SCHOOLCHILDREN AND THE GENERAL PUBLIC

In the reporting year, the university paid great attention to educational projects. Among the main projects were the following:

1. “A Large University for a Large City”. 32 popular science lecturers by university researchers were held in the “Amital” book supermarkets. About 70 thousand views online and on the VKontakte page: https://vk.com/amitalnapushkinskoi
2. Within the framework of the National Public Educational Organisation “Russian Foundation “Znaniye””, the following activities were carried out:
    - Project “Triangle 4.0” in the format of a combined video lecture and offline seminar at Nikitin Regional Scientific Library. Module: Psychological Welfare. O. A. Ivanova, PhD in Pedagogy: “So, that’s what you are, modern human! Features of perception and communication of generations X, Y, and Z”. Among the audience were students and lecturers from Voronezh State University of Engineering Technologies and the Solnyshko school for gifted children at the recreation boarding house “Repnoye”.
    - Project “Triangle 4.0”. Module: Natural Sciences and Humanities. Offline seminar for students from VSU sciences faculties “Physiological metaphor as an element of the natural science picture of the world (using the example of the German language)”, Associate Professor G. S. Borodkina.
    - “Share your Knowledge” challenge within the framework of the marathon “New Knowledge” dedicated to Knowledge Day at the following Voronezh schools: lyceum No. 8, school No. 101, and school No. 48, which was attended by members of the Voronezh branch of the Russian Foundation “Znaniye”. Honoured Teacher of the Russian Federation, Vera Timofeeva, PhD in Philology, VSU Professor Alla Shesterina, and VSU Associate Professor Galina Borodkina visited schools and gave lectures.

III. IDENTIFYING, SUPPORTING, AND ATTRACTING TALENTED STUDENTS TO STUDY AT VSU

For the first time, VSU held an innovation preaccelerator for schoolchildren “The League of Innovations 5.0” (research areas: Physics and Mathematics, Chemistry and Biology, IT, and Social Entrepreneurship). Partners: GK *Informsvyaz-Chernozemye* (Freedom) and *Biruch-NT* Innovation Centre (R&D of GK *EFKO*), 395 participants in 2021.

COMPETITIONS FROM THE LIST OF COMPETITIONS BY THE MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION

The following competitions were held at the university:

- Multidisciplinary engineering academic competition among schoolchildren “Star” (611 participants in the field of Natural Sciences).
- Interregional Physics competition “Future Researchers: the Future of Science” (146 participants at the final stage).

- All-Russian competition in financial awareness, financial market, and protection of the rights of consumers of financial services (36 participants at the final stage).
- Specialised competition for schoolchildren in Physics and Mathematics “Rosatom” (183 participants at the face-to-face stage).

COMPETITIONS, MARATHONS, CONTESTS, AND TOURNAMENTS

In addition to competitions from the list by the Ministry of Science and Higher Education of the Russian Federation, the University organised and actively participated in other events aimed at identifying talented applicants and attracting them to enrol in educational programmes implemented at the university:

- Engineering academic competition for schoolchildren from Central Russia in Mathematics and Physics (1,007 participants).
- Interregional open festival of robotics “Roboart-2021” (1,054 participants from 42 regions of Russia, as well as from Belarus, Kazakhstan, and Armenia).
- The 5th Interregional competition “Smart Start” in programming (115 participants at the final stage).
- 35th online Conference of the Scientific Society of Students (24 sections, 1,800 participants from the Voronezh and Lipetsk Regions).

IV. EDUCATIONAL AND CREATIVITY EVENTS: POETRY, LITERATURE, SINGING, AND MUSICAL CONTESTS, LESSONS, CLUBS, AND FESTIVALS

Issues of education and creative development of students and applicants were in the focus of the university’s attention in the reporting year. A large number of poetic, literary, vocal, and musical projects and activities were implemented at the university:

- Project “Word Territory” (the anniversary episodes were dedicated to the 20th anniversary of the project) and “Let’s Talk Together” (in cooperation with the state TV and radio company “Voronezh”) on “Radio Rossia”.
- Publication of the student newspaper of the Voronezh Law College “Zerkalo” (http://www.law.vrn.ru/index.php/12-osnovnaya-informatsiya/informatsiya-o-tekhnikume/200-arkhiv-zerkala).
- Management of the children’s press centre “Young Journalists” at Novousmansky lyceum (https://vk.com/young.journallist).
- Project “Voronezh Environment”. A series of online walks around the old and modern Voronezh with Olga Rudeva, Deputy Chairman of the Voronezh branch of the All-Russian Society for the Protection of Historical and Cultural Monuments.
- Participation of members of the public organisation Nash Voronezh within a group of Voronezh veterans in a marathon dedicated to the Day of Remembrance and Sorrow held in the Military Patriotic Park of Culture and Recreation of the Armed Forces of the Russian Federation “Patriot” located in the city of Kubinka, Odintsovo District, Moscow Region.

- “Dialogue of Philologists” dedicated to the Day of the Russian Language (Nikitin library).
- Participation of VSU employees in the 9th International Scientific Conference “Book in the Modern World: Cognitive Aspects”.
- Winter Festival of original song “Parus Nadezhdy” for children.
- Online competition of students’ rhetorical performances “Youth Environment as a Cultural Area” within the framework of the city festival of rhetoric at I. F. Artamonov school No. 36.
- Municipal children’s books festival “You and I are Big Friends of Books”.
- Participation in organising events dedicated to the 50th anniversary of Otradnoye school. Creating the documentary film “A hundred subjects in the school schedule” dedicated to the anniversary of the school.
- Municipal competition of students’ rhetorical videos, awarding winners and their supervisors.
- 25th international festival of original song “Parus Nadezhdy”.
- Online discussion “Russian Spelling: Who Sets the Rules?” (Nikitin library).
- National educational event “National Economic Dictation” dedicated to the topic: “Strong Economy Means Prosperous Russia”, held online (www.diktant.ru).
- Municipal contest of arts and crafts master classes “Paraskeva Craftswoman” (jury membership).
- Municipal Media project contest “Magical City” (jury membership).
- Contest exhibition of children’s creativity “VSU through the Eyes of Children” (in cooperation with the VSU Museum of History and Scientific Achievements).

V. ACADEMIC SCIENCE FOR TEACHERS AND FURTHER TRAINING

Close cooperation with school teachers in the framework of academic research and advanced training involved the following activities:

- Online educational and methodical seminars for teachers using the TrueConf program: an overview of TRIZ tools; discussing and exchanging experience of using TRIZ tools in teaching (project activities) by educational organisations; issues of organising project-based learning (86 educational institutions and 436 participants).
- A webinar for managers, teachers, and academic staff “Presentation of the project “League of Innovations”” (34 educational institutions and 68 participants).
- Open professional pedagogical festival “PROMovement” at the Centre for Continuous Development of Professional Skills of Academic Staff.
- A master class within the final project event “The Internet as a Territory of Security” within the framework of the 10th regional professional competition of professional skills “The Internet and We”.

VI. INFORMATIONAL AND CAREER GUIDANCE SUPPORT OF PROSPECTIVE STUDENTS DURING THEIR ENROLMENT TO THE UNIVERSITY’S PROGRAMMES

The list of activities within this area of the university activity consists of several parts.

3. The University has always actively provided applicants to educational programmes at all levels with informational support during the admission procedure by publishing information on the Internet, regional media, and in the “Voronezh University” newspaper, by covering admission and training issues at the university on air on the regional and municipal radio, and by providing regular consultations to applicants at the department of pre-university education, on multi-channel telephone line, and online (on the official website, social networks, by e-mail).
4. Open days were held at the university on 18 April 2021 (over 3,000 people) and between 1 and 12 November 2021 the autumn online marathon of open days at VSU was held on the official YouTube channel.
5. Off-site open days were held on 12-13 March in the Pavlovsk district: the Pavlovsk secondary school with in-depth study of certain subjects, Pavlovsk secondary school No. 2, Pavlovsk secondary school No. 3 (the Faculty of Mathematics); on 14 and 17 May the event was held at the Mikhailovsky military school and the A.V. Suvorov Voronezh Cadet School (military training centre).

A major part of the events was devoted to career guidance activities. Among the key events were the following:

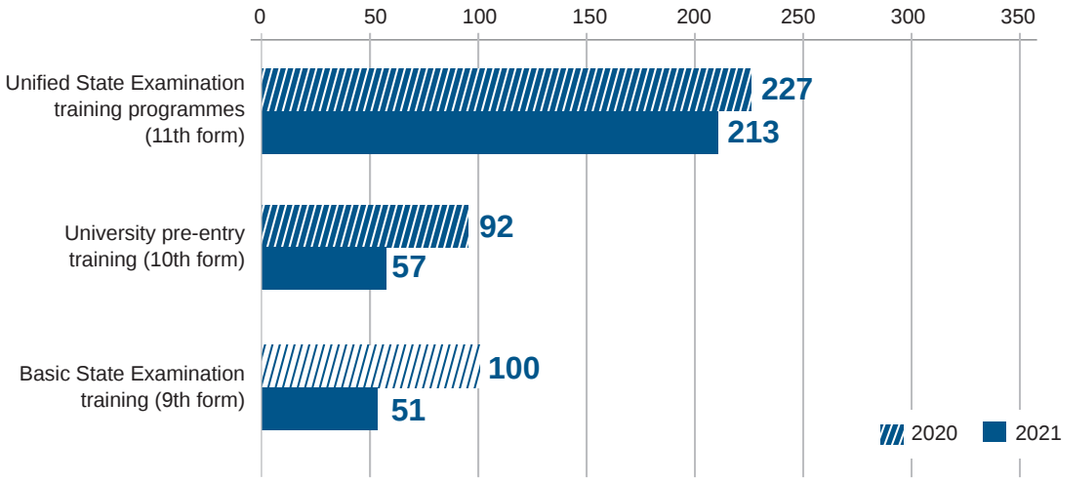
- Online forum at the Voronezh Educational Centre “First” for schoolchildren from forms 9–11 “Higher Education. Prospects and Opportunities 2021” (5 February 2021).
- Career guidance campaign “Choosing the Future. University and Profession” (in cooperation with the educational centre “First”) for schoolchildren from forms 9–11 (24 March 2021).
- A project dedicated to early career guidance of schoolchildren from forms 6–11 “Ticket to the Future” was continued within the framework of the national project “Education” (federal project “Success of Every Child”).
- Computer-based testing of prospective students was organised within the programme “Proforientator” (in collaboration with the Centre of Testing and Development “Humanitarian Technologies” (Moscow), 50 people were tested).

VII. PRE-STUDY COURSES FOR SCHOOLCHILDREN IN SUBJECTS THAT ARE PART OF THE UNIFIED STATE EXAMINATION

In 2021, 321 students took fee-paying pre-study courses within additional general development programmes aimed at improving the level of proficiency in general subjects and university pre-entry training: “Training for the Unified State Examination”, “Preparation for the Final Essay”, “University Pre-entry training”, “Basic State Examination Training” (Fig. 4.1). The training involved using distance learning technologies.

Figure 4.1

DISTRIBUTION OF STUDENTS ACCORDING TO THE PROGRAMMES OF PRE-STUDY COURSES



Since September 2014, the university has provided the programme “Preparation for the Final Essay” for 11th form students. In 2021, the programme was completed by 6 students.

The analysis of USE results for the graduates of pre-study courses as well as their matriculation results allowed carrying out a qualitative assessment of the training provided at the courses (Tables 4.1 and 4.2).

Table 4.1

AVERAGE SCORE IN THE UNIFIED STATE EXAMINATION FOR THE GRADUATES OF PRE-STUDY COURSES

Subject	2020	2021
Russian Language	76.02	75.7
Mathematics	62.89	59.8
Biology	55.91	57.9
Geography	67	54.7
Foreign Language (English)	79.33	68.3
Informatics and ICT	73.98	64.9
History	59.16	64.4
Literature	75.57	72.4
Social Studies	62.09	60.1
Physics	57.03	59.8
Chemistry	55.43	56

Table 4.2

MATRICULATION RESULTS AT VSU DEMONSTRATED BY THE GRADUATES OF PRE-STUDY COURSES

Faculty	Number of students
Faculty of Geography, Geoecology, and Tourism	–
Faculty of Geology	2
Faculty of Journalism	6
Faculty of History	3
Faculty of Computer Sciences	14
Faculty of Mathematics	6
Faculty of Biomedical Sciences	2
Faculty of International Relations	1
Faculty of Applied Mathematics, Informatics, and Mechanics	24
Faculty of Romance and Germanic Philology	12
Faculty of Pharmaceutics	–
Faculty of Physics	5
Faculty of Philology	2
Faculty of Philosophy and Psychology	–
Faculty of Chemistry	1
Faculty of Economics	4
Faculty of Law	4
Total admitted to VSU	**86**

56 people out of 86 enrolled in state-funded programmes and 30 people enrolled in fee-paying programmes.

4.3. MAIN RESULTS OF THE 2021 ADMISSION CAMPAIGN

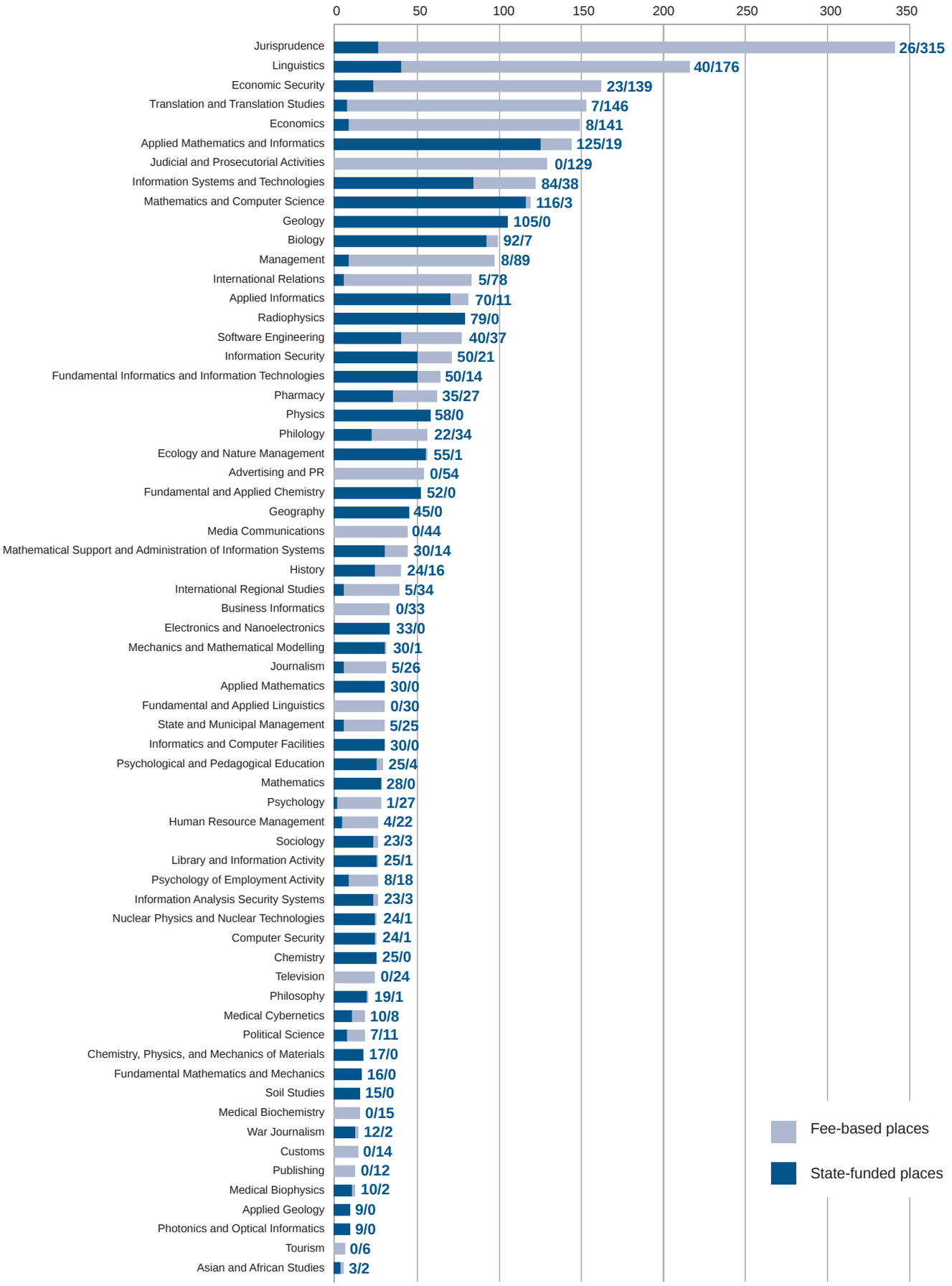
The 2021 admission campaign was held in a mixed format: the applications and documents necessary to enrol in programmes were submitted by applicants both personally and via electronic information system of VSU. Admission quotas grew significantly compared to the previous year: Voronezh State University had 2,533 state-funded places for bachelor's, specialist's, and master's degree programmes (in 2020 the number was 2,191, thus, there was a 15.6% increase).

Traditionally, the toughest competition was at the Faculty of Economics, the Faculty of Law, the Faculty of Computer Sciences, the Faculty of Applied Mathematics, Informatics, and Mechanics, and the Faculty of Romance and Germanic Philology. There was a difficult situation in 2021 with enrolment in state-funded places at the Faculty of Chemistry. At the same time, overall, the university managed to achieve an increase in the number of first-year students studying in fee-based programmes (2,926 as compared to 2,874 in 2020).

The distribution of first year students by bachelor's and specialist's degree programmes of different modes of study in 2020 is shown in Fig. 4.2–4.4.

Figure 4.2

DISTRIBUTION OF THE FULL-TIME FIRST YEAR STUDENTS BY BACHELOR'S AND SPECIALIST'S DEGREE PROGRAMMES



In the reporting year, “Jurisprudence” was the only part-time programme that provided state-funded places.

Figure 4.3

NUMBER OF PART-TIME STUDENTS ENROLLED IN BACHELOR’S DEGREE PROGRAMMES

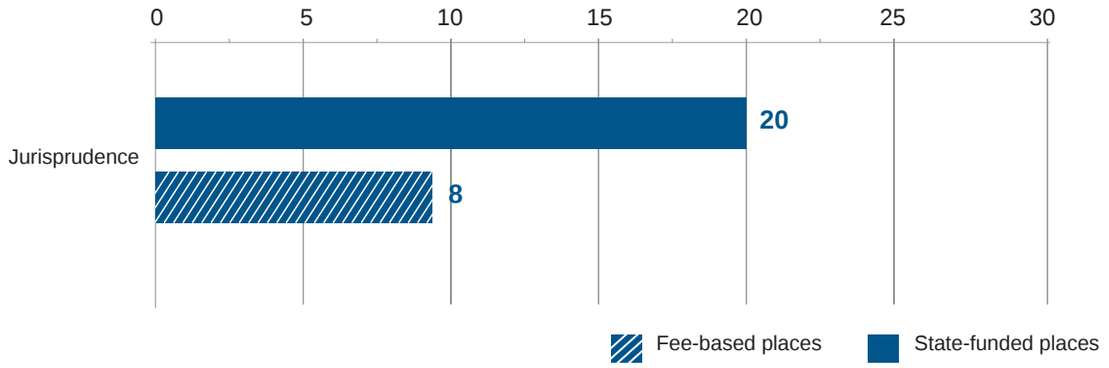
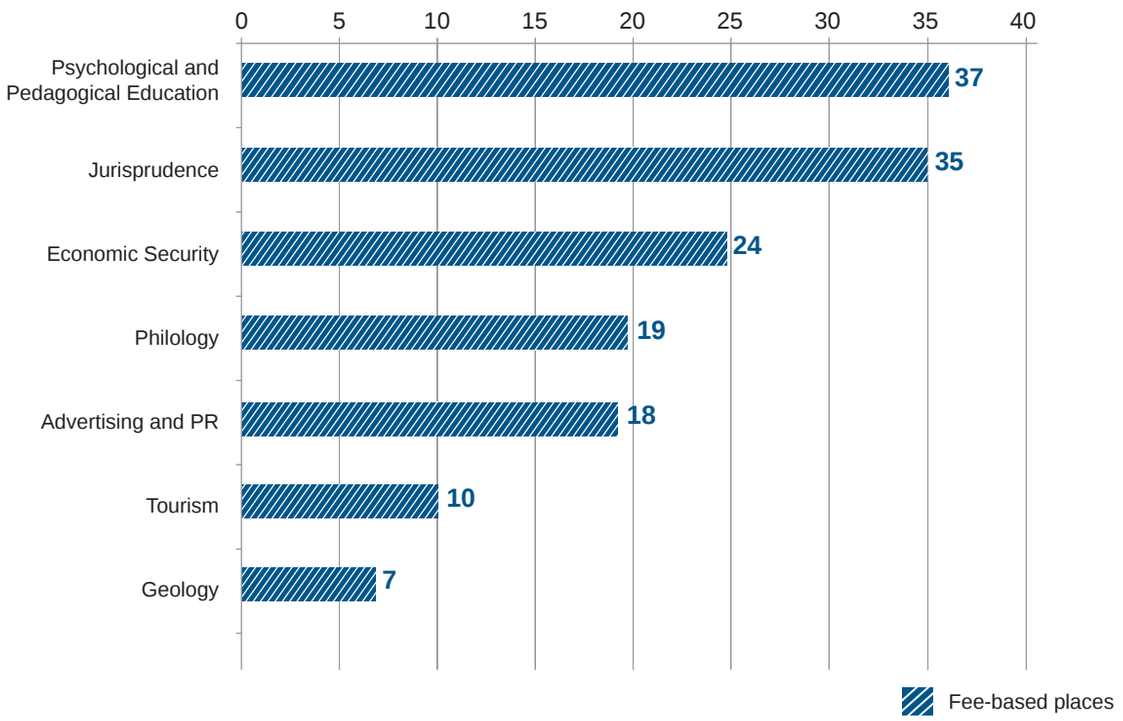


Figure 4.4

NUMBER OF EXTRAMURAL STUDENTS ENROLLED IN BACHELOR’S DEGREE AND SPECIALIST’S DEGREE PROGRAMMES



The distribution of first year students by master's degree programmes of different modes of study is shown in Fig. 4.5–4.7.

Figure 4.5

NUMBER OF FULL-TIME STUDENTS ENROLLED IN MASTER'S DEGREE PROGRAMMES

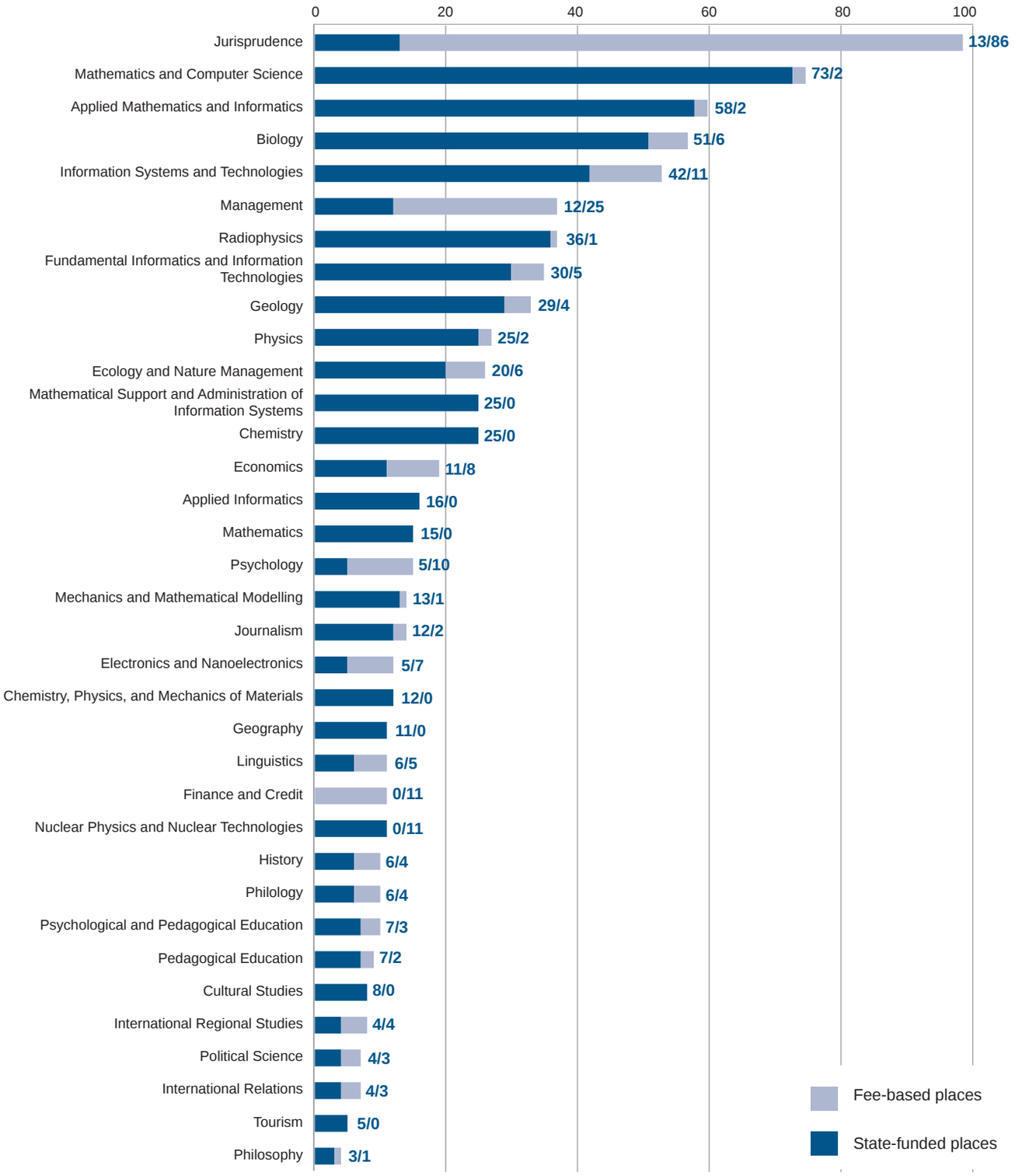


Figure 4.6

NUMBER OF PART-TIME STUDENTS ENROLLED IN MASTER'S DEGREE PROGRAMMES

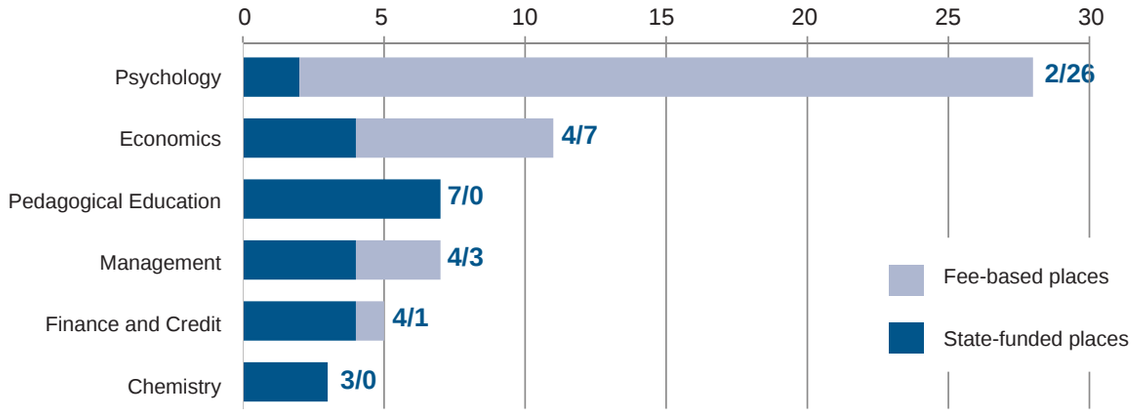
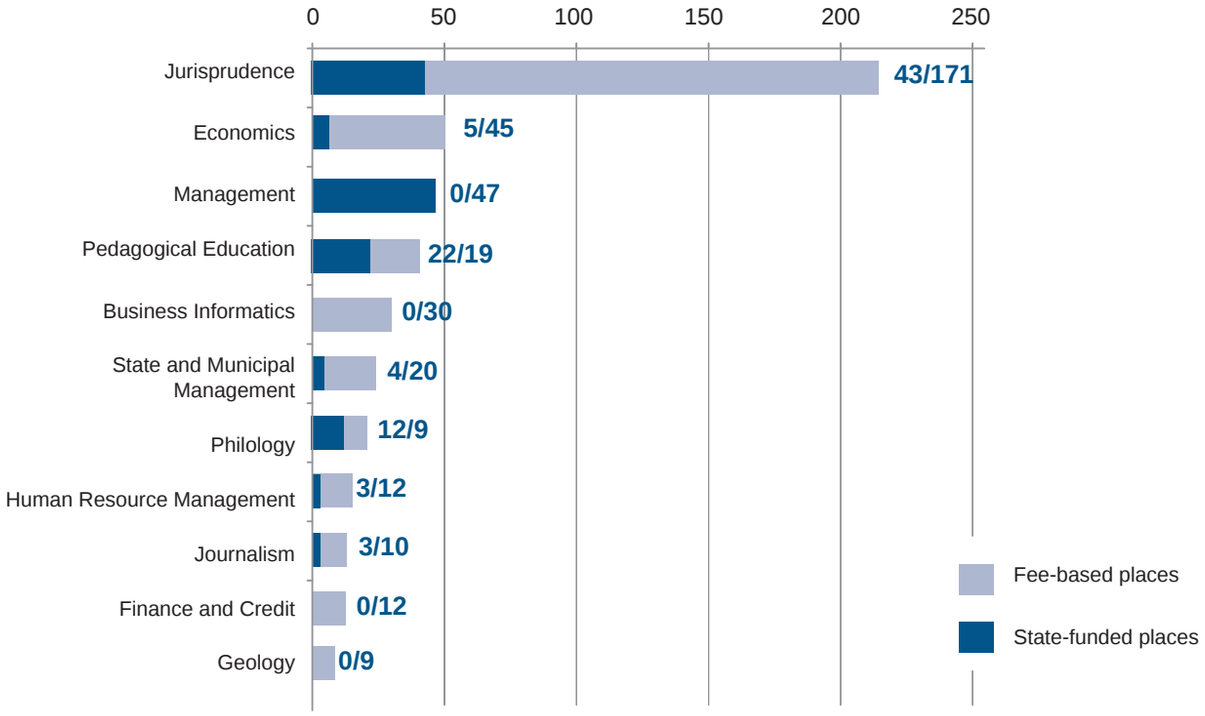


Figure 4.7

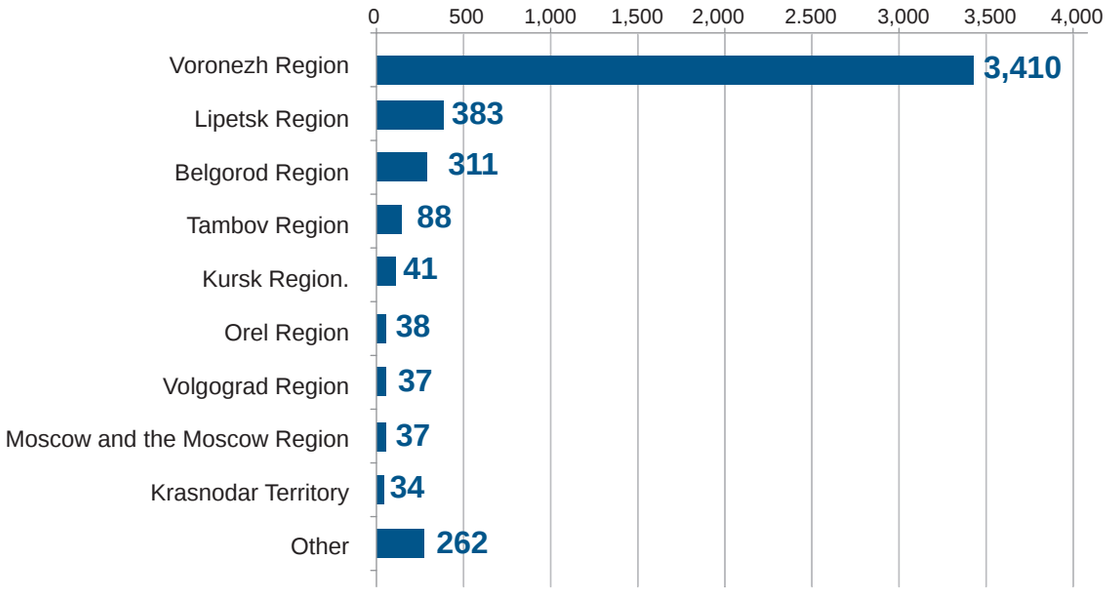
NUMBER OF EXTRAMURAL STUDENTS ENROLLED IN MASTER'S DEGREE PROGRAMMES



In the reporting year, similar to the previous year, admission applications were submitted by applicants from all subjects of the Russian Federation except for the region of the Russian Federation with the smallest population, the Nenets Autonomous Okrug. Residents of Voronezh and the Voronezh Region still make up the majority of those enrolled in the first year (Fig. 4.8).

Figure 4.8

DISTRIBUTION OF THE STUDENTS ADMITTED TO VSU ACCORDING TO THE SUBJECTS OF THE RUSSIAN FEDERATION



Similarly to previous years, the second place for the number of students admitted to VSU was taken by the Lipetsk Region, and the third by the Belgorod Region.

The shortcomings of the enrolment procedure in 2021 which allowed unscrupulous applicants to submit their consent for admission to state-funded places at several universities at the same time, unfortunately, led to a decrease in the number of winners and prize-winners of academic competitions enrolled in programmes at VSU (Table 4.3).

Table 4.3

LIST OF HIGHER EDUCATION PROGRAMMES ON WHICH VSU ENROLLED WINNERS AND AWARDEES OF ACADEMIC COMPETITIONS HELD AMONG SCHOOLCHILDREN

Area	Number of students enrolled without examinations	Number of students enrolled with the score of 100 points in an academic competition
Linguistics	–	1
International Relations	1	1
Fundamental and Applied Chemistry	1	1

Apart from higher professional education programmes, for several years VSU has been offering secondary vocational education programmes for graduates of forms 9 and 11, which are very popular among prospective students. In 2021, the number of state-funded places in the speciality “Pharmacy” increased from 15 to 20. In 2021, 273 first year students were enrolled in secondary vocational education programmes (Table 4.4).

Table 4.4

NUMBER OF STUDENTS ADMITTED TO SECONDARY VOCATIONAL EDUCATION PROGRAMMES

Name of the secondary vocational education speciality	Funded from the federal budget	Funded from commercial educational services
For graduates of basic general education programmes (form 9):		
Pharmacy	20	49
Sustainable Management of Natural and Economic Complexes	–	13
Economics and Accounting (area-based)	–	35
Advertising	–	98
Tourism	–	21
For graduates of general secondary education programmes (form 11)		
Optical Eyecare	–	12
Economics and Accounting (area-based)	–	25
Secondary vocational education programmes, total	**20**	**253**

As for gender composition, the majority of VSU students are women who represent 3/5 of the total number of students. The gender structure of first year students in 2021 is very similar to the one of the previous year: 59% of women and 41% of men.

4.4. GENERAL INFORMATION ON THE ACADEMIC PROGRAMMES IMPLEMENTED AT VSU IN 2021

In 2021, higher education programmes included 115 bachelor's degree programmes (51 specialities), 22 specialist's degree programmes (15 specialities), 101 master's degree programmes (39 specialities), 73 PhD programmes (17 research areas), and 3 residency specialities (Table 4.5).

Table 4.5

ACADEMIC PROGRAMMES IMPLEMENTED AT VSU IN 2021

Code Fields of education	Names of fields of education	Bachelor's degree		Master's degree		Specialist's degree		Postgraduate training programmes		Residency training
		Specialities	Programmes	Specialities	Programmes	Major speciality	Specialisation	Specialities	Programmes	Major speciality
01.00.00	Mathematics and Mechanics	4	8	3	6	1	2	1	3	
02.00.00	Computer and Information Sciences	3	8	3	7					
03.00.00	Physics and Astronomy	2	9	2	7			1	5	
04.00.00	Chemical Sciences	2	5	2	5	1	1	1	7	
05.00.00	Geosciences	3	10	3	4			1	11	
06.00.00	Biological Sciences	2	9	2	6			1	8	
09.00.00	Informatics and Computer Facilities	4	9	1	7			1	4	
10.00.00	Information Security	1	1			2	3			
11.00.00	Electronics, Radioengineering, and Communication Systems	1	2	1	1			1	1	
14.00.00	Nuclear Energy and Nuclear Technologies	1	1	1	1					
21.00.00	Applied Geology, Mining, Oil and Gas Engineering, and Geodesy					1	1			
30.00.00	Fundamental Medicine					3	3			
33.00.00	Pharmacy					1	1	1	4	3
37.00.00	Psychological Sciences	1	1	1	3	1	1	1	2	
38.00.00	Economics and Management	5	16	6	18	2	2	1	5	
39.00.00	Sociology and Social Development	1	1	1	1					
40.00.00	Jurisprudence	1	4	1	16	1	1	1	10	
41.00.00	Political Sciences and Regional Studies	3	5	3	4			1	1	
42.00.00	Mass Media and Library Science	5	12	2	3					
43.00.00	Tourism and Service	1	1	1	1					
44.00.00	Education and Pedagogical Sciences	1	2	2	4			1	1	
45.00.00	Linguistics and Literary Studies	3	12	2	5	1	6	1	7	
46.00.00	History and Archaeology	2	2	1	1			1	3	
47.00.00	Philosophy, Ethics, and Religion Studies	1	2	1	1			1	3	
50.00.00	Art Studies	1	1							
51.00.00	Culture Studies and Sociocultural Projects	2	2	0	0			1	1	
56.00.00	Military Operation					1	1			
58.00.00	Asian and African Studies	1	1							
Total		51	124	39	101	15	22	17	73	3

In 2021, the aggregate (normalised) contingent of students within higher professional education programmes totalled over 16,627 people including:

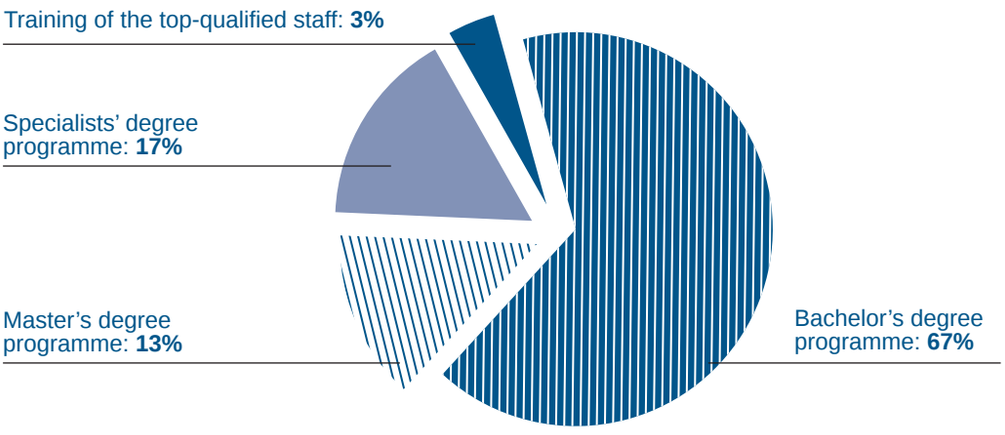
- Bachelor's degree students: 11,201 people
- Specialist's degree students: 3,092 people
- Master's degree students: 1,880 people
- PhD students: 420 people
- Residents: 34 people.

Figure 4.9 demonstrates the structure of the normalised contingent within higher education programmes provided by the university.

In 2021, the number of PhD students and residents in the normalised contingent amounted to 14%.

Figure 4.9

THE STRUCTURE OF THE NORMALISED CONTINGENT OF UNIVERSITY STUDENTS WITHIN HIGHER EDUCATION PROGRAMMES



Master's degree education programmes provided in 2020/21 are listed in Table 4.6.

Table 4.6

MASTER'S PROGRAMMES PROVIDED BY THE UNIVERSITY IN THE 2020/21 ACADEMIC YEAR

Specialities	Programmes
FACULTY OF BIOMEDICAL SCIENCES	
06.04.01 Biology	Biophysics Botany Genetics Zoology Biomedical Sciences Ecology
06.04.02 Soil Science	Soil Genesis and Evolution in Natural and Anthropogenic Landscapes
05.04.06 Ecology and Natural Resource Management	Ecological Safety
FACULTY OF GEOGRAPHY, GEOECOLOGY, AND TOURISM	
05.04.02 Geography	Territory Planning and Landscape Design
05.04.06 Ecology and Natural Resource Management	Ecological Monitoring and Environmental Impact Assessment
43.04.02 Tourism	Planning and Project Development in Tourism
FACULTY OF GEOLOGY	
05.04.01 Geology	Fundamental Research in Geology
FACULTY OF JOURNALISM	
42.04.02 Journalism	Internet and Mass Media
42.04.01 Advertising and Public Relations	Advertising and Public Relations in Mass Media
FACULTY OF HISTORY	
39.03.01 Social Studies	Sociological Education
41.03.04 Political Science	Analysis of Politics and Policies
46.04.01 History	Research and Teaching in History
FACULTY OF COMPUTER SCIENCES	
02.04.01 Mathematics and Computer Sciences	Computer Modelling and Artificial Intelligence
09.04.02 Information Systems and Technologies	Information Systems Analysis and Synthesis Information Technologies in Management Mobile Applications and Video Games Artificial Applied Intelligence Systems
FACULTY OF MATHEMATICS	
01.04.01 Mathematics	Mathematical Models and Hydrodynamics
02.04.01 Mathematics and Computer Sciences	Mathematical Methods and Computer Technologies in Natural Science, Economics, and Management Mathematical Analysis and Applications Mathematical and Computer Modelling

Table cont. 4.6

Specialities	Programmes
FACULTY OF INTERNATIONAL RELATIONS	
41.04.05 International Relations	International Integration and International Organisations
41.04.01 International Regional Studies	European Studies
38.04.02 Management	International Business
38.04.01 Economics	Business in the Emerging Markets
FACULTY OF APPLIED MATHEMATICS, INFORMATICS, AND MECHANICS	
02.04.02 Fundamental Informatics and Information Technologies	Mobile Applications Development Technologies
01.04.02 Applied Mathematics and Informatics	Information Technologies and Economic Activities Computer Technologies for the Problems of Mathematical Physics, Optimisation, and Management Mathematical Foundations for Computer Graphics Mathematical Support and Software for Information Systems
02.04.03 Mathematical Support and Administration of Information Systems	Management of the Design and Development of Information Systems
01.04.03 Mechanics and Mathematical Modelling	Applied Mechanics and Computer Modelling
38.04.05 Business Informatics	Information Business Analytics (extramural)
FACULTY OF ROMANCE AND GERMANIC PHILOLOGY	
45.04.02 Linguistics	International Business Communication and Translation
44.04.01 Pedagogical Education	Innovations in Education; Teaching Foreign Languages with the Help of Online Technologies in Schools and Further Education
FACULTY OF PHILOSOPHY AND PSYCHOLOGY	
44.04.01 Pedagogical Education	Innovations in Education
47.04.01 Philosophy	Philosophy of Creativity and Cultural Industries Ontology and Epistemology
37.04.01 Psychology	Clinical and Psychological Follow-up (part-time learning) Psychology of Personality
44.04.02 Psychological and Pedagogical Education	Psychology and Pedagogy of Creativity
51.04.01 Cultural Studies	Organisation and Management in Cultural Industries
FACULTY OF PHYSICS	
03.04.02 Physics	Optics and Nanophotonics Physics of Nanosystems Nuclear and Elementary Particle Physics
03.04.03 Radiophysics	Computer Methods of Radiophysical Information Processing Microelectronics and Semiconductor Devices Telecommunication Systems and Electronic Warfare

End of table 4.6

Specialities	Programmes
11.04.04 Electronics and Nanoelectronics	Integrated Electronics and Nanoelectronics
11.04.02 Nuclear Physics and Nuclear Technologies	Physics of Atomic Nucleus and Elementary Particles
FACULTY OF PHYLOLOGY	
45.04.01 Philology	Psycholinguistics and Forensic Linguistics (extramural) Russian Literature in the European Context Russian Language and Literature in Cultural and Pedagogical Aspects
FACULTY OF CHEMISTRY	
04.04.01 Chemistry	Analytical Chemistry Organic Chemistry Chemical Expertise
04.04.02 Chemistry, Physics, and Mechanics of Materials	Chemistry, Physics, and Mechanics of Function Materials and Nanomaterials
FACULTY OF ECONOMICS	
38.04.01 Economics	Accounting, Analysis, and Audit Financial Analyst: Investments, Credit Standing, Risks (extramural) Economics of Organisations and Markets Health Care Accounting, Control, and Analysis (extramural)
38.04.02 Management	Healthcare Management (extramural) Contemporary Technologies in Management
38.04.08 Finance and Credit	Financial Management Banking Support of Contracts
38.03.04 State and Municipal Administration	Administration of the Territory Social and Economic Development
38.04.03 Human Resource Management	Management of Human Resources and Employer Branding in Digital Economy (extramural)
FACULTY OF LAW	
40.04.01 Jurisprudence	Conventional Law Criminalistics, Operational Investigations, Judicial, and Advocate Activities International Law and Business Financial and Tax Law Taxation and Civil Legislation Organisation of the Judicial Power and Law Enforcement Activities Legal Techniques of Legal Conflict Resolution Judicial and Non-Judicial Forms of Civil Rights Protection Theory and History of State and Law (extramural) Criminal Law and Criminology; Penal Law Criminal Procedure Legal Defence in Administrative and Administrative Procedure Law Lawyer in the Field of Labour, Social, and Land Law Public Authority Attorneys

4.5. TRAINING THE TOP-QUALIFIED ACADEMIC STAFF: POSTGRADUATE DEGREE AND RESIDENCY COURSES

The number of postgraduate students according to research areas and fields of study is shown in Table 4.7.

Table 4.7

DISTRIBUTION OF STUDENTS WITHIN POSTGRADUATE DEGREE COURSES ACCORDING TO SPECIALISATIONS (AS OF 31 DECEMBER 2021)

Codes of research areas and fields of study	Titles of research areas and fields of study	Number of postgraduate students			
		Total	Including		
			RF citizens	CIS citizens	Foreign citizens
	Total	**522**	**456**	**14**	**51**
01.06.01	**Mathematics and Mechanics**	**51**	**47**	**2**	**2**
	Substantial, Complex, and Functional Analysis	6	6	0	0
	Differential Equations, Dynamical Systems, and Optimal Control	39	35	2	2
	Solid Mechanics	6	6	0	0
03.06.01	**Physics and Astronomy**	**54**	**49**	**0**	**5**
	Theoretical Physics	9	9	0	0
	Radiophysics	24	22	0	2
	Optics	6	5	0	1
	Condensed Matter Physics	10	9	0	1
	Semiconductor Physics	5	4	0	1
04.06.01	**Chemical Sciences**	**33**	**29**	**0**	**4**
	Inorganic Chemistry	2	2	0	0
	Analytical Chemistry	6	5	0	1
	Organic Chemistry	11	9	0	2
	Physical Chemistry	1	0	0	1
	Electrochemistry	4	4	0	0
	High-molecular Compositions	6	6	0	0
	Solid State Chemistry	3	3	0	0
05.06.01	**Geosciences**	**35**	**25**	**1**	**9**
	General and Regional Geology	1	0	0	1
	Palaeontology and Stratigraphy	0	0	0	0
	Petrology, Volcanology	1	1	0	0
	Lithology	0	0	0	0
	Hydrogeology	2	1	0	1
	Geological Engineering, Permafrostology, and Soil Science	4	4	0	0
	Geophysics, Geophysical Methods in Mineral Deposit Exploration	3	2	0	1
	Geology, Solid Mineral Deposits Exploration, Minerageny	8	6	0	2

Table cont. 4.7

Codes of research areas and fields of study	Titles of research areas and fields of study	Number of postgraduate students			
		Total	Including		
			RF citizens	CIS citizens	Foreign citizens
	Physical Geography and Biogeography, Soil Geography, and Landscape Geochemistry	2	2	0	0
	Economic, Social, Political, and Recreational Geography	3	2	1	0
	Geoecology	11	7	0	4
06.06.01	**Biological Sciences**	**52**	**46**	**0**	**6**
	Biophysics	5	5	0	0
	Biochemistry	14	12	0	2
	Botany	3	3	0	0
	Zoology	3	3	0	0
	Entomology	2	2	0	0
	Genetics	14	14	0	0
	Ecology	9	6	0	3
	Soil Studies	2	1	0	1
09.06.01	**Informatics and Computer Facilities**	**66**	**57**	**1**	**8**
	System Analysis, Management, and Processing of Information	12	12	0	0
	Management in Social and Economic Systems	6	5	1	0
	Theory of Informatics	17	16	0	1
	Mathematical Modelling, Numerical Methods, and Program Systems	31	24	0	7
11.06.01	**Electronics, Radioengineering, and Communication Systems**	**3**	**3**	**0**	**0**
	Solid-state Electronics, Radioelectronic Components, Microelectronics, Nanoelectronics, Quantum Effect Tools	3	3	0	0
33.06.01	**Pharmacy**	**8**	**8**	**0**	**0**
	Pharmacology, Clinical Pharmacology	1	1	0	0
	Medicinal Product Formulation Technology	3	3	0	0
	Pharmaceutical Chemistry, Pharmacognosy	3	3	0	0
	Pharmacy Business Organisation	1	1	0	0
37.06.01	**Psychological Sciences**	**5**	**5**	**0**	**0**
	Social Psychology	2	2	0	0
	Pedagogical Psychology	3	3	0	0
38.06.01	**Economics**	**54**	**45**	**1**	**8**
	Economic Theory	1	1	0	0
	Economics and National Economy Management	32	24	1	7
	Finance, Money, and Credit	2	2	0	0
	Accounting, Statistics	16	15	0	1
	Mathematical and Instrumental Techniques in Economics	3	3	0	0

End of table 4.7

Codes of research areas and fields of study	Titles of research areas and fields of study	Number of postgraduate students			
		Total	Including		
			RF citizens	CIS citizens	Foreign citizens
40.06.01	**Jurisprudence**	**63**	**62**	**0**	**1**
	Theory and History of State and Law; History of State and Law Studies	13	13	0	0
	Constitutional Law, Constitutional Proceedings, Municipal Law	7	6	0	1
	Finance Law, Tax Law, and Budget Law	4	4	0	0
	Labour Law and Social Security Law	0	0	0	0
	Criminal Law and Criminology; Criminal and Penal Law	6	6	0	0
	Criminal Procedure	2	2	0	0
	International and European Law	2	2	0	0
	Criminalistics, Operational Investigations, Judicial and Expert Activities	10	10	0	0
	Administrative Law, Administrative Procedure	7	7	0	0
	Civil and Arbitration Procedures	12	12	0	0
41.06.01	**Political Sciences and Regional Studies**	**6**	**6**	**0**	**0**
	Political Institutions, Processes, and Technologies	6	6	0	0
44.06.01	**Education and Pedagogical Sciences**	**11**	**9**	**1**	**1**
	General Pedagogics, History of Pedagogics and Education	11	9	1	1
45.06.01	**Linguistics and Literary Studies**	**50**	**38**	**7**	**5**
	Russian Literature	11	8	0	3
	International Literature	1	1	0	0
	Journalism	9	8	0	1
	Russian Language	12	9	2	1
	Germanic Languages	4	3	1	0
	Romance Languages	6	2	4	0
	Linguistic Theory	7	7	0	0
46.06.01	**Historical Sciences and Archaeology**	**23**	**20**	**1**	**2**
	Russian History	8	6	1	1
	General History	9	9	0	0
	Archaeology	6	5	0	1
47.06.01	**Philosophy, Ethics, and Religion Studies**	**6**	**6**	**0**	**0**
	Ontology and Epistemology	2	2	0	0
	Ethics	0	0	0	0
	Social Philosophy	4	4	0	0
51.06.01	**Cultural Studies**	**2**	**2**	**0**	**0**
	Theory and History of Culture	2	2	0	0

4.6. STATE FINAL EXAMINATION

208 state examination committees worked during the state final examination.

The contingent of students who passed the state final examination was as follows: 4,072 people, including 2,349 bachelor's degree students, 281 specialist's degree students, 1,140 master's degree students, 104 PhD students, 8 residents, and 190 secondary vocational education (SVE) specialists (Table 4.8, Fig. 4.10).

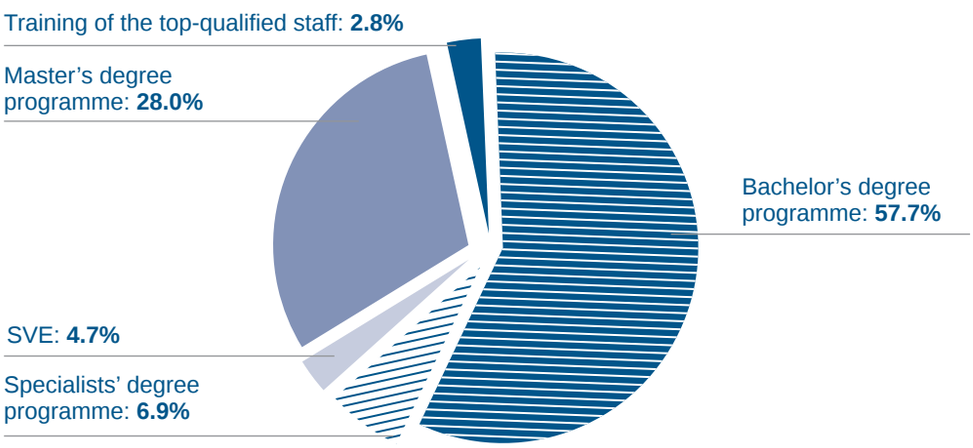
Table 4.8

DISTRIBUTION OF STUDENTS ACCORDING TO THE MODES OF STUDY AND DEGREE LEVELS IN 2021

Degree levels	Bachelor's		Specialist's		Master's		Secondary vocational education		PhD	Residency
	excellent	Total	excellent	Total	excellent	Total	excellent	Total	Total	Total
Full-time	347	2,082	59	281	355	757	13	190	86	8
Extramural	7	201	–	–	107	348	–	–	18	–
Part-time	9	66	–	–	9	35	–	–	–	–
Total	363	2,349	59	281	471	1,140	13	190	104	8

Figure 4.10

DISTRIBUTION OF STUDENTS ACCORDING TO THE DEGREE LEVELS (ALL MODES OF STUDY)



The percentage of graduate qualification papers within bachelor's, specialist's, and master's degree programmes completed following a request from a company amounted to 13.4%. 9.6% of them were recommended for introduction into production.

The distribution of graduates within postgraduate academic staff training programmes is shown in Table 4.9.

Table 4.9

NUMBER OF GRADUATES BY EDUCATION PROGRAMMES AND INFORMATION ABOUT PHD THESIS DEFENCE

Research area	Number of graduates	Defended PhD theses (graduates of 2021)
Mathematics and Mechanics	11	0
Physics and Astronomy	11	3
Chemical Sciences	9	1
Geosciences	7	0
Biological Sciences	6	1
Informatics and Computer Facilities	12	3
Electronics, Radioengineering, and Communication Systems	1	1
Pharmacy	4	1
Psychological Sciences	2	0
Economics	11	3
Jurisprudence	10	1
Political Sciences and Regional Studies	0	0
Education and Pedagogical Sciences	4	1
Linguistics and Literary Studies	11	2
Historical Sciences and Archaeology	8	0
Philosophy, Ethics, and Religion Studies	0	0
Cultural Studies	1	0
Total	108	17
Of the total number of PhD students (number of foreign citizens)	19	0

In 2021, the residents completed higher education programmes, residency programmes, and obtained postgraduate diplomas (residency degree).

4 people graduated from the speciality 38.08.02 Management and Economics of Pharmacy.

4 people graduated from the speciality 38.08.01 Management and Economics of Pharmacy.

The residents' population according to research areas and fields of study as of 31 December 2021 is shown in Table 4.10.

Table 4.10

NUMBER OF RESIDENTS ACCORDING TO RESEARCH AREAS AND FIELDS OF STUDY

Code	Name of speciality	Number of residents				
		Total	Including			
			RF citizens		Foreign citizens	
			state funding	fee-paying	state funding	fee-paying
	Total	**35**	**28**	**3**	**2**	**2**
33.08.01	Pharmaceutical Engineering	16	14	1	1	0
33.08.02	Management and Economics of Pharmacy	13	9	2	1	1
33.08.03	Pharmaceutical Chemistry and Pharmacognosy	6	5	0	0	1

4.7. OVERVIEW OF NETWORK EDUCATION PROGRAMMES

In the reporting period, the number of network education programmes continued to increase. Network programmes provide the opportunity for students to master education programmes and (or) specified subjects, courses, disciplines (modules), practical training, and other components provided for by education programmes (including different types, levels and (or) specialities) using resources of several educational organisations, including international ones, and using, if necessary, the resources of other organisations.

As a result of continuous collaborative work with Georg August University (Göttingen, Germany), a network education programme “European Languages and World Literature” within the bachelor’s programme 45.03.02 Linguistics was created.

Within the framework of the existing agreements on the network implementation of education programmes, the following programmes are provided at the university:

- “International Business” for speciality 38.04.02 Management (master’s degree) in cooperation with the Southern Federal University.
- “Human Resource Management” for speciality 38.03.03 Human Resource Management (bachelor’s degree) in cooperation with Russian Technological University.
- “Tour Operator and Travel Agency Services Techniques and Management” for speciality 43.03.02 Tourism (bachelor’s degree) in cooperation with Yesenin Ryazan State University.

Programmes completed by students at the networking partner university are aimed at shaping students’ personal qualities, developing their speaking and writing skills in national and foreign languages, as well as improving the ability to adapt to different educational environments and teaching methods.

4.8. OVERVIEW OF SCHOLARSHIP PROGRAMMES

University students have an opportunity to take part in different scholarship programmes which are aimed at supporting talented young people (Table 4.11).

Table 4.11

TYPES OF UNIVERSITY SCHOLARSHIP PROGRAMMES FOR UNDERGRADUATE AND POSTGRADUATE STUDENTS

Scholarship programme	Number of scholarships for students
Scholarship of the President of the Russian Federation in the priority areas	14
Scholarship of the Government of the Russian Federation in the priority areas	23
Scholarship of the Government of the Russian Federation in priority areas (for SVE)	18
Grant of the President of the Russian Federation (within the programme “Talent and Success”)	5
Personal scholarship of Vladimir Potanin Charitable Foundation	8
Scholarship of the VSU Academic Board	6
Scholarship named after Professor L.D. Kokorev	2
Scholarship named after Professor G.F. Gorsky	2
Scholarship named after Professor I.A. Galagan	2
Scholarship named after Professor V.S. Osnovin	2
Scholarship named after Professor V.A. Panushkin	2
Scholarship named after Professor A.M. Abramov	1
Scholarship named after Professor M.S. Tochilin	1
Scholarship named after Professor M.A. Levitskaya	1
Scholarship named after Professor V.A. Lisitsky	1
Scholarship named after Professor G.Ye. Vedel	1
Scholarship named after Professor L.T. Gilyarovskaya	3
Scholarship named after Professor V.N. Eytingon	2
Scholarship named after Professor M.A. Krasnoselsky	1
Scholarship named after Professor V.I. Sobolev	1
Scholarship named after Professor V.T. Titov	1
Scholarship named after Professor V.B. Kashkin	1
Scholarship named after Professor G.Ya. Bayev	2
Scholarship named after Professor V.A. Artiomov	1
Scholarship named after Professor L.E. Kroichik	1
Scholarship of the data provider *Informsvyaz-Chernozemye*	13
Scholarship of *Concern Sozvezdiye*	11
Scholarship of AO *KPMG*	7
Scholarship of the Honorary Doctor of Voronezh State University A.V. Gordeev	3
Scholarship of the Oxford Russia Fund charity organisation	63

4.9. GENERAL INFORMATION ABOUT THE SECONDARY VOCATIONAL EDUCATION PROGRAMMES IMPLEMENTED AT VSU IN 2021

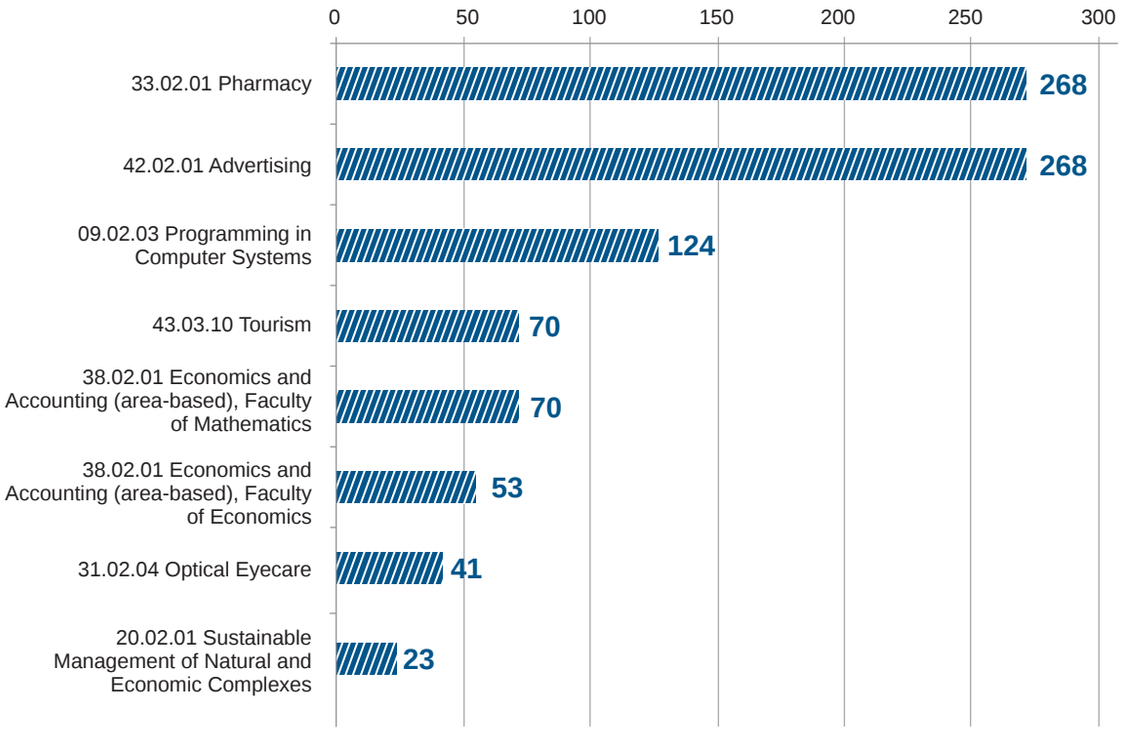
In 2021, the university implemented primary-level programmes designed for secondary vocational education specialists within seven Federal State Educational Standards including: 09.02.03 Programming in Computer Systems (basic level); 20.02.01 Sustainable Management of Natural and Economic Complexes (basic level); 31.02.04 Optical Eyecare (advanced level); 33.02.01 Pharmacy (basic level); 38.02.01 Economics and Accounting (area-based) (basic level); 42.02.01 Advertising (basic level); and 43.02.10 Tourism (basic level).

The grade point average (GPA) of students enrolled in the following secondary vocational education programmes in 2021 was 4.3 which was above the nationwide GPA (3.78). The distribution of the grade point average by specialities was as follows: Pharmacy (4.54), Advertising (4.26), Tourism (4.12), Optical Eyecare (3.91), Sustainable Management of Natural and Economic Complexes (4.11), Economics and Accounting (area-based) at the Faculty of Mathematics (4.28), Economics and Accounting (area-based) at the Faculty of Economics (4.25).

The number of SVE students was 917. The distribution of the contingent by programmes is shown in Figure 4.11.

Figure 4.11

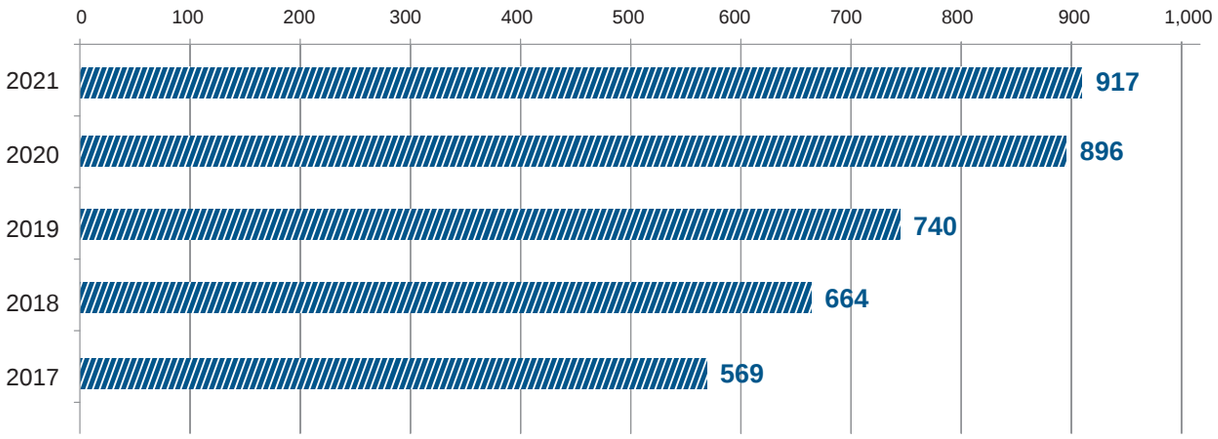
DISTRIBUTION OF STUDENTS ACCORDING TO SECONDARY VOCATIONAL EDUCATION PROGRAMMES



The dynamics in the admission to secondary vocational education programmes is generally positive, with the contingent having increased by 61% over the last 5 years (Fig. 4.3). Fig. 4.12 shows that the dynamics slowed down in 2021 due to the fact that there was no recruitment for the programmes in “Engineering, Technologies, and Technical Sciences” whose percentage in the educational system of the region was 50.35% of the total contingent.

Figure 4.12

DYNAMICS OF THE NUMBER OF A STUDENT CONTINGENT BY SECONDARY VOCATIONAL EDUCATION PROGRAMMES IN 2017– 2021



In 2021, 22 VSU students studying secondary vocational education programmes were awarded Russian Federation Government Scholarships in top-priority areas of modernisation and technological development of the economy of the Russian Federation. According to the results of a competitive selection, the scholarships were awarded to 12 students from the speciality 33.02.01 Pharmacy, 3 students from the speciality 09.02.03 Programming in Computer Systems, and 7 students from the speciality 31.02.04 Optical Eyecare.

In 2021, the number of graduates of the secondary vocational education programmes totalled 190, including 13 students who graduated with honours degrees (Table 4.12).

Table 4.12

GRADUATION RESULTS OF STUDENTS ACCORDING TO SECONDARY VOCATIONAL EDUCATION

Secondary vocational education speciality	Number of graduates	From gr 2				
		With honours degree	With an excellent mark for thesis defence	With a good mark for thesis defence	With a satisfactory mark for thesis defence	Average mark for thesis defence
09.02.03 Programming in Computer Systems	29	1	22	4	3	4.66
31.02.04 Optical Eyecare	11	1	10	1	0	4.91
33.02.01 Pharmacy	42	1	19	19	4	4.36
38.02.01 Economics and Accounting (area-based), Faculty of Economics	12	0	1	8	3	3.83
38.02.01 Economics and Accounting (area-based), Faculty of Mathematics	22	3	3	8	11	3.64
42.02.01 Advertising	43	2	7	13	23	3.63
43.02.10 Tourism	31	5	13	9	9	4.13
Total	**190**	**13**	**75**	**62**	**53**	**4.16**

For the second year, the state final examination procedure for the graduates of the secondary vocational education programmes within the updated education standard “Federal State Educational Standard 4” besides diploma defence involved a demo exam as a type of graduate qualification paper. The state final examination procedure for graduates from the programme 38.02.01 “Economics and Accounting (area-based)” involved a demo exam for the competence R41 Accounting.

Demo exam is an independent assessment of graduates’ competencies by WorldSkills Agency experts from third-party enterprises and organisations at a specialised site, the Centre for the WorldSkills demo exam accredited by the WorldSkills Agency.

In 2021, the accreditation of the centre for the demo exam for the competence R41 RU Accounting at the Faculty of Economics was extended. The centre meets all the requirements regarding the facilities needed for the programme and the international WorldSkills requirements.

34 graduates passed the demo exam (Table 4.13).

Table 4.13

DEMO EXAM RESULTS FOR THE COMPETENCE R41 ACCOUNTING IN 2021

Secondary vocational education speciality	Number of graduates	Result				
		Exceeded the average score in the Russian Federation	Excellent	Good	Satisfactory	Average score
38.02.01 Economics and Accounting (area-based), Faculty of Economics	12	4	1	9	2	3.92
38.02.01 Economics and Accounting (area-based), Faculty of Mathematics	22	7	2	14	6	3.82
Total	**34**	**11**	**3**	**23**	**8**	**3.87**

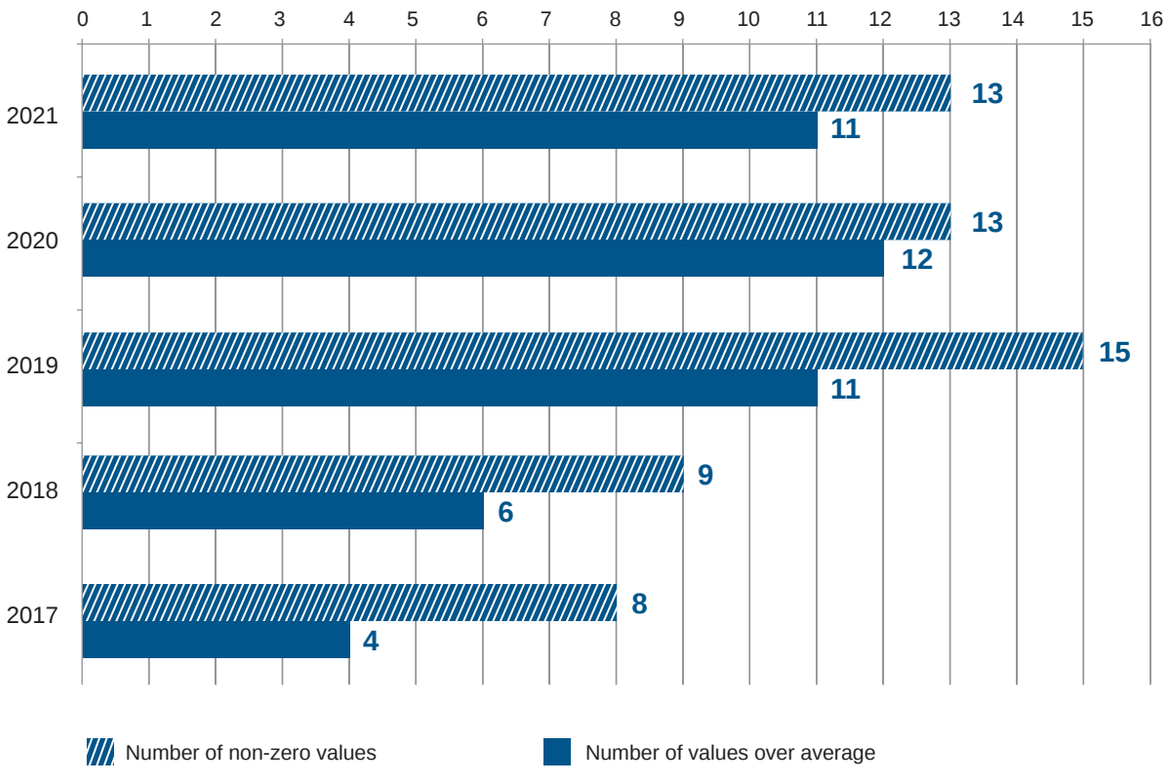
In 2021, the Monitoring of the Quality of Specialists Training in Educational Organisations Implementing Secondary Vocational Education Programmes (SVE Monitoring) demonstrated that VSU's performance in the field of educational activity, international activity, infrastructure, financial and economic activities, staff, and social responsibility was above average.

According to the results of the monitoring among 81 educational institutions of the Voronezh Region implementing secondary vocational education programmes, in the reporting year Voronezh State University was within the "green zone", which includes educational institutions with a high degree of implementation and development of audited indicators. VSU took 14th position for the number of values over average.

The dynamics of SVE Monitoring in 2017– 2021 is shown in Fig. 4.13.

Figure 4.13

QUANTITATIVE RESULTS OF THE SVE PROGRAMMES MONITORING



In 2021, students at SVE programmes for the first time took part in all-Russian testing. Students of the 1st and 2nd years completed two tests: the tests assessed the metasubject skills and skills in one specialised subject. Students completing programmes in the speciality “Advertising” took a test in the Russian language, students in the speciality “Pharmacy” completed a test in Chemistry, the test for students in the speciality “Programming in Computer Systems” was in Computer Science, and a test in Mathematics was completed by students in the specialities “Tourism”, “Sustainable Management of Natural and Economic Complexes”, and “Economics and Accounting (area-based)”. 170 first-year students (91% of the first-year contingent) and 184 second-year students (84% of the second-year contingent) took part in all-Russian testing. 85% of the participants passed the meta-subject test. The test in the Russian language passed 92% of the students, 50% of the students passed the test in Chemistry, 29% passed the test in Computer Science, and 75% passed the test in Mathematics.

4.10. AN INTEGRATED EDUCATION AND INFORMATION SYSTEM AND ITS MAIN DEVELOPMENT TENDENCIES

The university's integrated education and information system (IEIS) has become a necessary and compulsory element of its educational system which has been adapted to satisfy the demands of any user (students, teachers, staff members, and other users). This is one of the main criteria for assessing the system's effectiveness.

OVERVIEW OF INFORMATIONAL SUPPORT AND MANAGEMENT OF THE EDUCATIONAL PROCESS

The "Electronic University VSU" web education portal (https://edu.vsu.ru) is an integrated education and information system of the University created in accordance with the Federal Law "On Education in the Russian Federation" and the Federal State Educational Standards.

Students and the teaching staff can access their personal accounts from any PC or other electronic devices connected to the Internet at any time.

"Electronic University VSU" portal is integrated with such information management systems as "Contingent", "Human Resources", "Curriculum", etc.

A service which automatically processes students' requests for receiving access permissions was also launched.

A service was developed allowing students and the teaching staff to change their personal profile in their personal accounts, to upload documents, and to post them on the network.

The portal has special services for uploading, downloading, and posting the following documents regulating the educational process (the data in brackets shows the increment per year):

- 347 (+5) State Educational Standards
- 3,501 (+120) main academic programmes implemented by VSU
- 3,308 (+486) main academic programmes curricula
- 58 (+7) SVE academic programmes curricula
- 108,058 (+16,452) course syllabuses.

The service “Design tool for syllabuses of main academic programmes” integrated with the VSU information system and a curricula database designed in the automated system “Curriculum” by OOO *MMIS LAB* makes it possible to automatically create syllabuses for disciplines and practical trainings in accordance with the curricula content.

The portal has a service for uploading and downloading graduate qualification papers by undergraduate students and scientific reports and graduate qualification papers by postgraduate students, as well as checking these works in the Automated Antiplagiat system. In 2021, 62,774 papers by VSU undergraduate and postgraduate students and employees were checked for borrowings in the Antiplagiat system.

The portal supports the educational process in case of in-person, distance, and blended learning. The integration of the proctoring service allows holding entrance, intermediate, and final state examinations online in accordance with the established regulations. In 2021, the service was used to hold 324 entrance exams and 222 final state examinations.

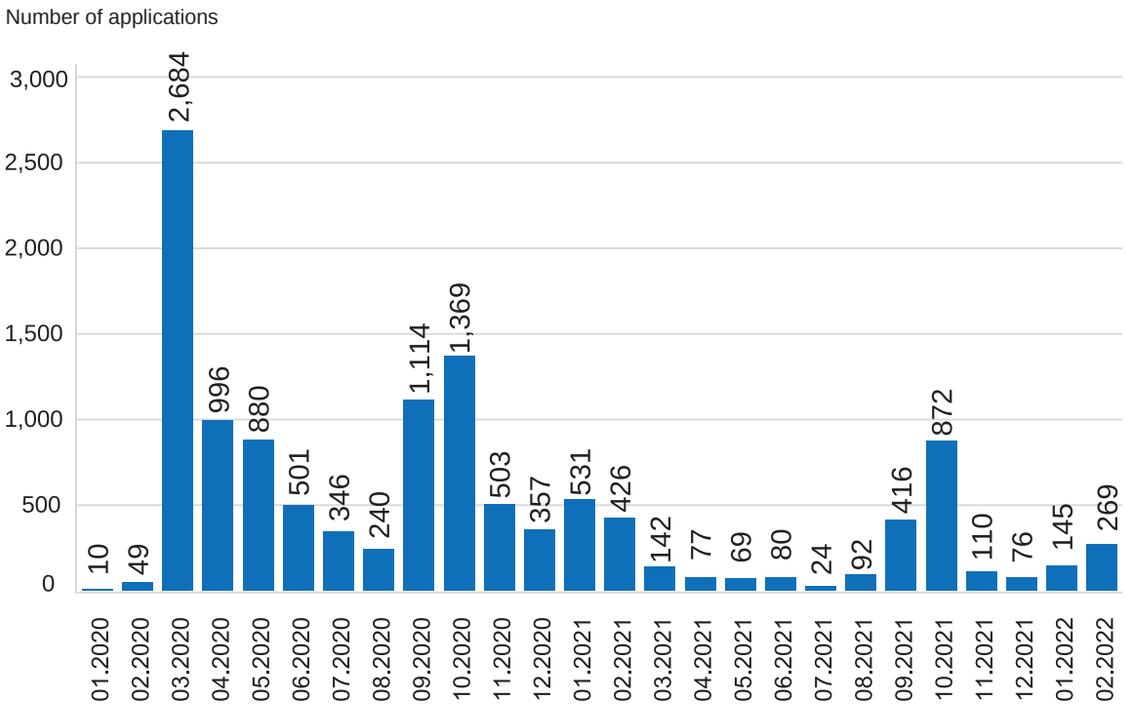
“ELECTRONIC UNIVERSITY VSU” PORTAL, AN ENVIRONMENT FOR E-LEARNING AND DISTANCE LEARNING TECHNOLOGIES

The e-courses registered and posted on the “Electronic University VSU” (https://edu.vsu.ru) portal include all the components of the educational process: study materials, assessment tools, as well as communication and control facilities. It is possible to organise the study material in various ways. The interactive tools allow any type of academic activities to be implemented electronically as well as assigning tasks, controlling, and assessing them.

In 2021, the educational process at the university was implemented in the blended learning environment using the “Electronic University VSU” portal. The intensive use of e-learning and distance learning technologies was accompanied by an increase in the number of e-courses. Thus, 2,915 applications were submitted by lecturers to create new e-courses to support the educational process (Fig. 4.14).

Figure 4.14

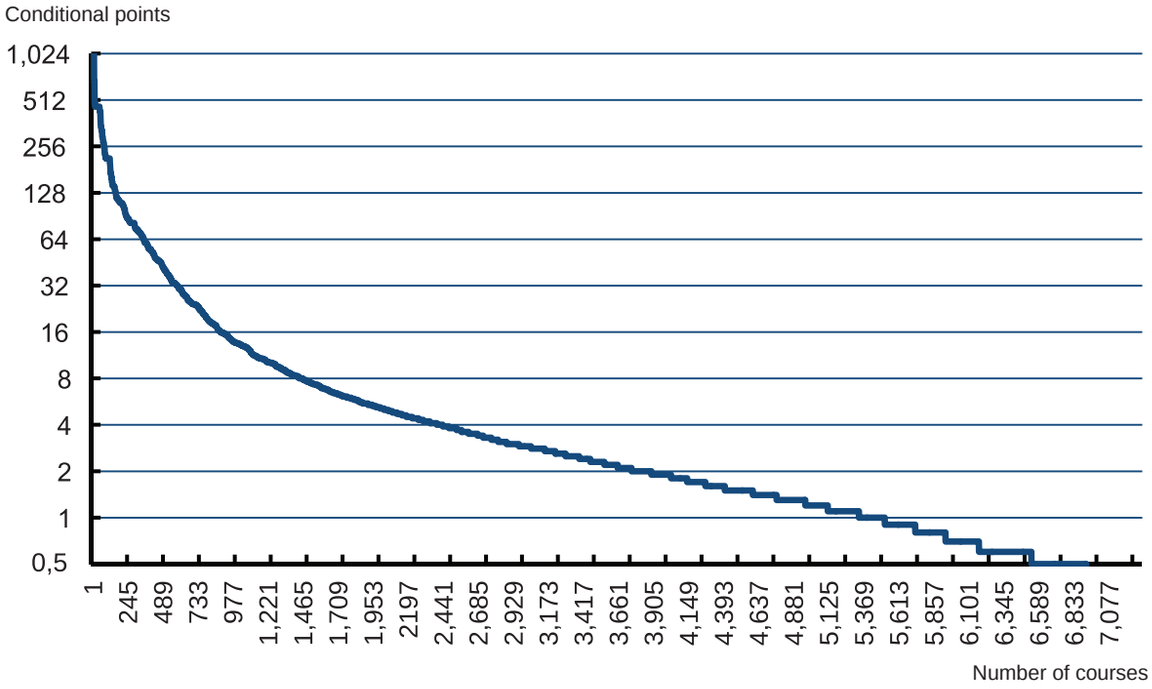
DYNAMICS OF THE APPLICATIONS TO REGISTER NEW E-COURSES ON THE PORTAL



It should be noted that the decrease in the number of applications to create new e-courses compared to 2020 indicates the fact that there is a significant number of curriculum disciplines already available on the portal and supported by its electronic educational resources and that the lecturers have been increasing using electronic educational resources (Fig. 4.15). By the end of 2021, the number of curriculum disciplines using e-learning courses on the portal had reached 11,515.

Figure 4.15

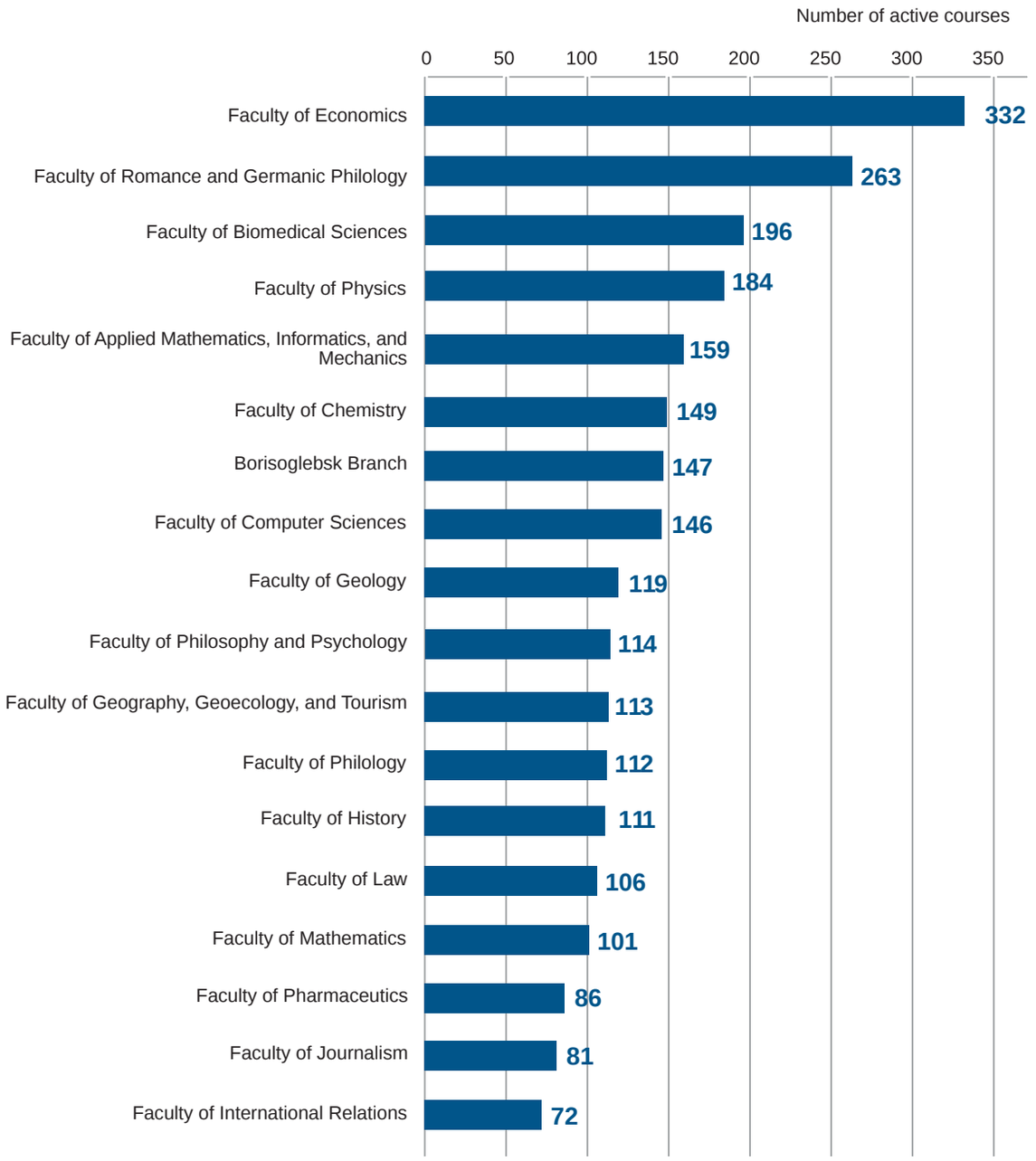
NUMBER OF CURRICULUM DISCIPLINES WITH UP-TO-DATE E-COURSES ON THE PORTAL



The number of e-courses created and used by the academic staff from different faculties varies depending on the specialisation of the faculty (Figure 4.16). It should be noted that the lecturers from the Faculty of Economics, the Faculty of Biomedical Sciences, the Faculty of Physics, the Faculty of Romance and Germanic Philology, and the Faculty of Applied Mathematics, Informatics, and Mechanics actively use electronic educational resources. They actively use electronic educational resources both to make the study material more understandable and to monitor their academic performance.

Figure 4.16

DISTRIBUTION OF ACTIVE COURSES ACCORDING TO FACULTIES



The support of the educational process in all formats by the e-learning portal led to an increase in the number of requests to the portal per day from 2,000–3,000 to over 21,000.

During the period when the educational process was being implemented using exclusively distance learning technologies, there was a significant increase in demand for the portal's video conferencing tools, which resulted in a dramatic increase in the cluster load. The average number of simultaneous requests to the BigBlueButton video conferencing service increased from 500 before the COVID-19 pandemic to 4,000 calls.

These factors made it necessary to boost the hardware resources of the server and network equipment. The total number of servers supporting the BigBlueButton video conferencing service was increased from 16 to 22 servers with a simultaneous increase in the amount of the RAM at each server from 12 to 20 GB and an increase in the number of cores at each server from 6 to 8. The total number of processor cores increased from 96 to 176.

The server cluster supporting LMS Moodle increased from 7 to 9 servers and the number of cores per server increased from 8 to 12 (the total number of processor cores doubled from 56 to 108). The RAM of each processor was increased from 20 GB to 32 GB.

The results of the analysis showed that in terms of equipment it is quite achievable to transfer the entire educational process even in such a large university as VSU to distance learning.

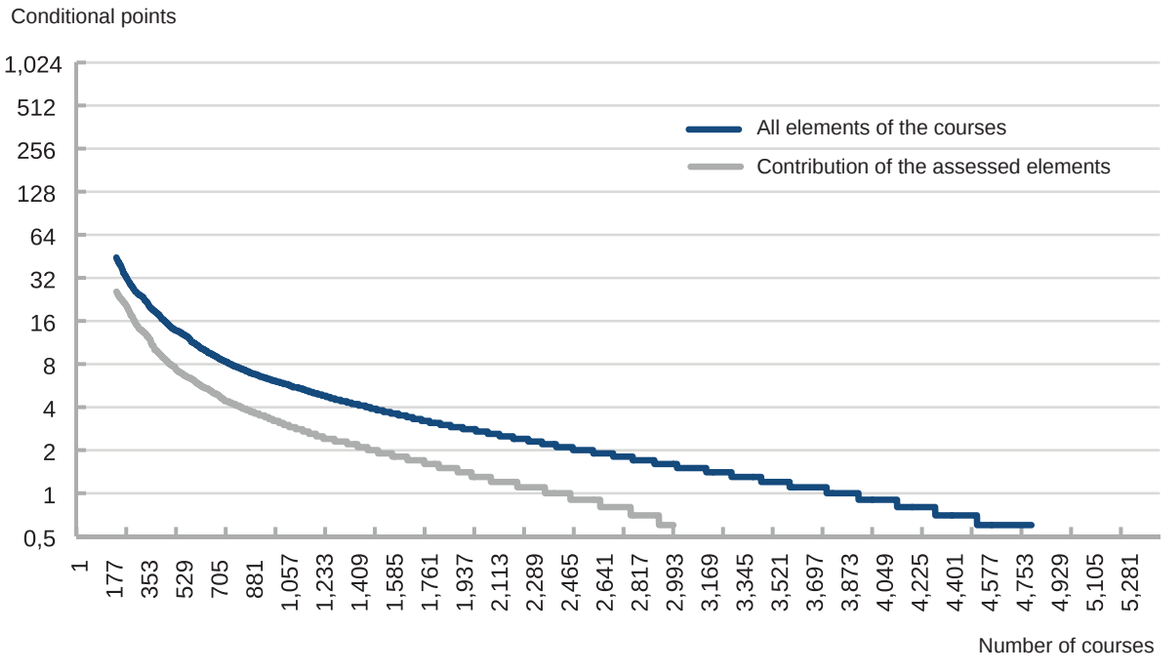
In order to optimise the use of portal resources, a quantitative metric was developed to determine the update level of the created electronic courses, which takes into account the real demand for the course elements in the educational process expressed in conditional points (Fig. 4.15 and 4.17).

New tools were added to the courses which allow organising independent work, monitoring academic performance, current and midterm assessments by means of the portal. The created metric made it possible to assess the variety of relevant (working) elements of the courses and the availability of elements within the course which allowed solving various educational problems.

Figure 4.17 shows the assessment of the qualitative composition of e-courses that support curriculum disciplines using the metric. The given dependencies show that course elements used to control and display the results of the academic performance of students are actively used.

Figure 4.17

THE LEVEL OF RELEVANCE OF THE USED E-COURSES, IN POINTS



The application of the metric to the e-courses used in the learning process highlighted the need to standardise the structure of e-courses, which support the discipline of the curriculum and allow using them in different learning modes.

The development of a quantitative metric that measures the level of implementation of the created e-courses involves analysing the pedagogical level of the content of e-courses and their effectiveness in the educational process with the use of e-learning and distance learning technologies.

To date, 8 MOOCs have been posted on the portal mooc.vsu.ru. They are used in the educational process at the university. This area can be developed by creating practical-oriented MOOCs and providing access to them to public users.

Cooperation with other universities is being developed in order to integrate online courses developed by them into the educational process. For example, online courses posted on the National Open Education Platform and Coursera were used within the university's education programmes.

Students completed courses on their own initiative or as a result of their integration into the educational process at the university.

4.11. EDUCATION QUALITY ASSESSMENT SYSTEM

The assessment of the quality of the university's education includes an internal assessment and an external independent expert evaluation of the quality of education programmes with due consideration of the opinions and satisfaction of clients and all the parties concerned. It also involves an assessment of compliance with the requirements of the Federal State Educational Standards, an assessment made by representatives of professional communities and employers, an assessment of the quality of academic activity, and an assessment of the quality of the university's management system in accordance with the ISO international standard.

In accordance with the requirements of the Federal State Educational Standards, the education quality monitoring within the main academic programmes is conducted by means of current, midterm, and final assessments.

In the 2020/21 academic year, over 17 thousand students took their mid-year examinations. 90.38% of the students managed to pass them with a good mark, which exceeded the rate of the previous mid-year examinations by 0.45%. Academic performance by faculties and with allowance for attempts to re-sit the examinations is shown in Fig. 4.18.

In the 2020/21 academic year, the average grade for the mid-year examinations amounted to 4.06, which was 0.07 higher than the figure of the previous mid-year examinations. The Faculty of Biomedical Sciences had the highest average mark (4.30) and the Faculty of Computer Sciences (3.83) had the lowest average mark.

In the 2020/21 academic year, 15.4 thousand students took the end-of-year examinations. 88.64% of the students managed to pass them with a good mark, which exceeded the rate of the previous end-of-year examinations by 5.97%. Academic performance by faculties and with allowance for attempts to re-sit the examinations is shown in Fig. 4.19.

In the 2020/21 academic year, the average grade for the end-of-year examinations amounted to 4.01, which was lower than the figure of the previous end-of-year examinations by 0.13. The Faculty of Philosophy and Psychology had the highest average mark (4.4) and the Faculty of Law (3.8) had the lowest average mark.

Figure 4.18

ACADEMIC PERFORMANCE OF ALL UNIVERSITY STUDENTS IN THE MID-YEAR EXAMINATIONS IN THE 2020/21 ACADEMIC YEAR ACCORDING TO FACULTIES

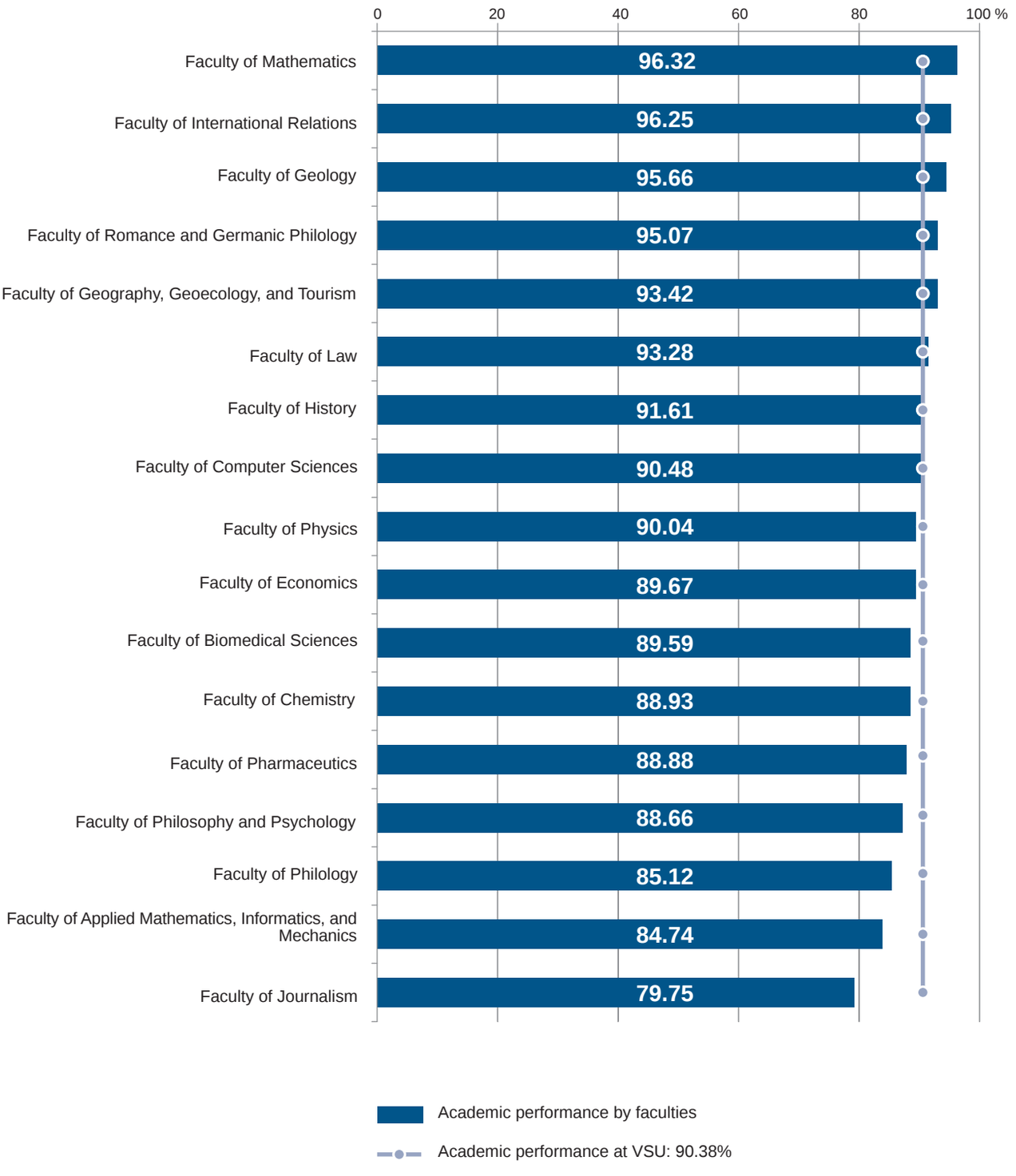
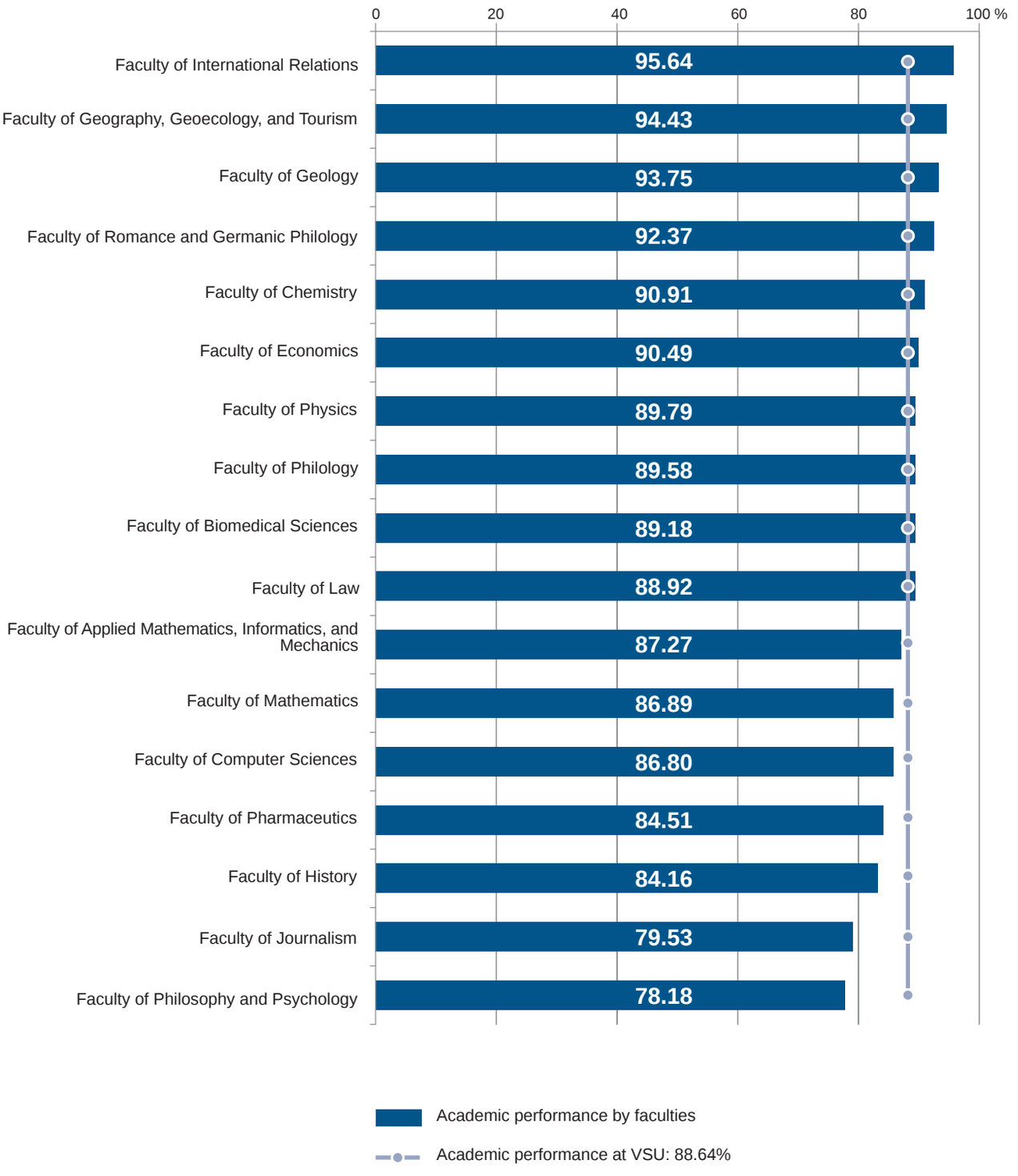


Figure 4.19

ACADEMIC PERFORMANCE OF ALL UNIVERSITY STUDENTS IN THE END-OF-YEAR EXAMINATIONS IN THE 2020/21 ACADEMIC YEAR ACCORDING TO FACULTIES



The quality of the educational process at the university is largely determined by the implementation of an efficient quality management system which meets requirements defined in the ISO 9001:2015 international standard. The quality management system is based on the process and risk-oriented approach implemented as a tool to prevent possible problems and minimise risks.

In order to achieve the results that meet the requirements of clients and the quality policy of VSU, a register of processes was updated, including: strategic planning, design and development of the educational process, work with applicants, educational process (SVE, part-time, further professional education programmes), research and innovation activities, human resources management, and internal audit (order of 21.09.2021 No. 0689). Overall management of the processes is carried out by process managers appointed by the above-mentioned order. A Quality Council was created at the university whose purpose is to coordinate the process of development, implementation, and continuous improvement of the quality management system.

The VSU quality policy was approved by Order No. 0689 of 21 September 2021. The order also approved the goals and a plan of activities in the area of quality for the 2021/22 academic year. The plan includes a list of activities, deadlines, responsible persons, and resources. The order sets the following quality objectives: to conduct an external independent assessment of the quality of education at VSU, to arrange activities aimed at preparing for control and supervision activities, to ensure functioning of the internal system of independent quality assessment, to update the QMS at the university in accordance with the new process model, to prepare and organise the VSU QMS certification to check its compliance with ISO 9001:2015, to identify the level of clients' and executives' satisfaction with the quality of the educational process.

In the reporting period, internal audits were held in accordance with the schedule for QMS internal audits for the 2021/22 academic year in the following 9 structural units: the Department of Pre-University Training and Enrolment of Students, the Department of Science, Innovation, and Information Policy, the Department of Educational Policy, Personnel Department, the Department of Strategic Development, the Faculty of Computer Sciences, the Faculty of Mathematics, the Faculty of Geology, the Faculty of Philology, and the Work Safety Service. As part of internal audits conducted in the structural units of the university, the audit team assessed the compliance of the QMS with the requirements of ISO 9001:2015. Overall, the planned activities within the structural units of the university were aimed at preventing risks considered in the relevant documented procedures and at implementing capabilities. The planned activities in terms of risk prevention and capabilities implementation proved to be effective.

In October 2021, as a result of the external audit conducted by the Certification Association Russian Register (St. Petersburg), the quality management system of VSU passed a certification audit for compliance with the requirements of ISO 9001:2015 and received international recognition.

The results of the audit confirmed the scope of certification in relation to the design, development, and provision of educational services in the area of higher, secondary vocational, and further education; research and innovation activities (Fig. 4.20).

Figure 4.20

A CERTIFICATE PROVING THAT THE QUALITY MANAGEMENT SYSTEM (QMS) OF VSU COMPLIED WITH THE REQUIREMENTS OF THE INTERNATIONAL ISO 9001:2015 STANDARD ISSUED BY CERTIFICATION ASSOCIATION RUSSIAN REGISTER


СИСТЕМА СЕРТИФИКАЦИИ РУССКОГО РЕГИСТРА
RUSSIAN REGISTER CERTIFICATION SYSTEM

СЕРТИФИКАТ

Настоящим удостоверяется, что система менеджмента качества

Федерального государственного бюджетного образовательного учреждения высшего образования "Воронежский государственный университет" (ФГБОУ ВО "ВГУ")

Университетская пл., 1, Воронеж, 394018, Россия

была проверена и признана соответствующей требованиям стандарта

ISO 9001:2015

в отношении проектирования, разработки и предоставления образовательных услуг в области высшего, среднего профессионального и дополнительного образования; научно-исследовательской и инновационной деятельности

No: 21.2150.026
от 22 ноября 2021 г.

Сертификат действителен до 22 ноября 2024 г.

СИСТЕМА СЕРТИФИКАЦИИ РУССКОГО РЕГИСТРА
RUSSIAN REGISTER CERTIFICATION SYSTEM

CERTIFICATE

This is to certify that the Quality Management System of

Voronezh State University
1, Universitetskaya Sq., 394018, Voronezh, Russia

has been assessed and found to be in accordance with the requirements of

ISO 9001:2015

in respect of designing, developing, and providing educational services in the area of higher, secondary vocational, and further education; research and innovative activities

No: 21.2150.026
of 22nd November, 2021

This certificate is valid until 22nd November, 2024

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

Voronezh State University

has implemented and maintains a

Quality Management System

for the following scope:

designing, developing, and providing educational services in the area of higher, secondary vocational, and further education; research and innovative activities

which fulfils the requirements of the following standard:

ISO 9001:2015

Issued on: 22nd November, 2021
expires on: 22nd November, 2024

This certificate is directly linked to the IQNet website's updated certificate and shall not be used as a stand-alone document.

Registration Number: RU-21.2150.026

As part of the quality management system, the management annually conducts its analysis, whose results are presented in this report. The purpose of the QMS analysis with due account of the quality policy and objectives of VSU is to assess the opportunities for improvement and the need for changes in the quality management system of the university to ensure its feasibility, adequacy, effectiveness, and consistency with the strategic areas of development of VSU. The objectives of the analysis are to determine the effectiveness of the quality management system, the degree of achievement of quality objectives, the degree of clients' satisfaction, the degree of compliance of services and products with the clients' requirements, the status of nonconformities and corrective actions, the effectiveness of actions taken with respect to risks and capabilities, as well as to identify changes in external and internal factors related to the quality management system, the areas and opportunities for its improvement. This report includes all elements of the analysis of the quality management system by the management and can be used by all stakeholders to improve processes at the university.

All stakeholders of the educational process are annually surveyed in order to identify the level of satisfaction with the quality of education. In 2021, 8,178 students participated in the survey, which is 2.5 times more than the number of survey participants in 2020. The results of the survey indicate that since 2020, there has been an increasing trend in the level of student satisfaction with the education. Thus, in 2020, the indicator increased by +0.6, while in 2021 it increased by +0.2 (Table 4.14).

Table 4.14

SATISFACTION OF VSU STUDENTS WITH EDUCATIONAL PROCESS ELEMENTS IN INDICES

Assessed elements of the educational process	Average at the university*	
	2020	2021
Satisfied with education at VSU	+0.57	+0.59
Satisfied with the chosen specialisation	+0.57	+0.57
Timetable (number of classes per day, gaps, etc.)	+0.55	+0.57
Facilities (laboratory, multimedia equipment, their availability, etc.)	+0.54	+0.61
Availability and sufficient number of printed text books and study guides	+0.59	+0.62
Availability and sufficient number of electronic text books and study guides	+0.56	+0.64
Level of teaching compulsory courses (application of new methods, interactivity, etc.)	+0.65	+0.69
Level of teaching specialised courses (application of new methods, interactivity, etc.)	+0.69	+0.68
Content of specialised courses	+0.68	+0.69
Content of compulsory courses	+0.68	+0.62
Level of teaching elective courses (application of new methods, interactivity, etc.)	+0.69	+0.61
Level of teaching Physical Education	+0.61	+0.43
Opportunity to choose specialised elective courses	+0.57	+0.68
Attitude to students shown by the personnel of the dean's office	+0.42	+0.78
Attitude to students shown by the educational support personnel (laboratory technicians, supervisors)	+0.65	+0.79
Attitude to students shown by the library personnel	+0.76	+0.80
Attitude to students shown by the lecturers of the same faculty	+0.77	+0.64
Attitude to students shown by the lecturers of other faculties	+0.78	+0.59
Access to computer software and its quality	+0.64	+0.59
Availability of places in classrooms, condition of classrooms	+0.55	+0.69
General assessment of the educational process	+0.57	+0.46
Catering services in the university building (opening hours, prices, range of dishes, quality of food, etc.)	+0.25	+0.14
Medical care and health services (health unit opening hours)	+0.08	+0.14

*The range of indices is between –1 and +1, where "+1" is the highest point of satisfaction and "–1" is the lowest.

As usual, such factors as the level of teaching and content of courses had the highest points. It should be noted that there was a considerable increase in students' satisfaction with the opportunity to choose specialised elective courses within their specialisation and attitude to students of the personnel of the dean's office and the educational support personnel. Despite the positive dynamics of the major pool of indices, there is a decrease in the level of students' satisfaction with attitude to students shown by lecturers (against high level of satisfaction with the level of teaching), the level of teaching Physical Education, and the quality of catering.

Students gave low ratings to the quality of medical and health services.

The high level of stakeholders' satisfaction with the educational process was proved by an independent assessment of quality of education conducted by the Federal Service for Supervision in Education and Science. In 2021, the Faculty of Applied Mathematics, Informatics, and Mechanics, the Faculty of Computer Science, the Faculty of Pharmaceutics, and the Faculty Romance and Germanic Philology underwent independent assessment of quality of education. The assessment of the quality of education was conducted for three bachelor's degree programmes: 01.03.02 Applied Mathematics and Informatics, 09.03.03 Applied Informatics, and 45.03.02 Linguistics; and one speciality: 33.05.01 Pharmacy (Table 4.15).

Table 4.15

RESULTS OF THE INDEPENDENT ASSESSMENT OF QUALITY OF EDUCATION

Results of the independent assessment of quality of education	Year Mode of study	Audited competences	Number of marks				Average percentage of completed tasks	Average recommended mark
			Excellent	Good	Satisfactory	Unsatisfactory		
01.3.02 Applied Mathematics and Informatics	4th year, full-time	OPK-1	4	13	7	1	66.20%	3.8
		OPK-2	1	17	7	0	63.84%	3.76
		OPK-3	7	15	3	0	72.04%	4.16
09.03.03 Applied Informatics	4th year, full-time	OPK-2	1	14	10	0	60.96%	3.64
		OPK-3	7	12	6	0	69.16%	4.04
		OPK-4	10	11	4	0	73.36%	4.24
45.03.02 Linguistics	4th year, full-time	OPK-3	2	16	6	1	64.16%	3.76
		OPK-12, OPK-13	3	13	8	1	62.04%	3.68
33.05.01 Pharmacy	4th, 5th years, full-time	OPK-1	4	20	1	0	72.72%	4.12
		OPK-4	16	9	0	0	82.36%	4.64
		OPK-6	11	13	1	0	77.6%	4.4

A high level of services provided by the university was also proved by public and professional accreditation. In 2021, two faculties received certificates of the public and professional accreditation issued by the union of the Voronezh Regional Chamber of Commerce and Industry. The certificates are valid for 6 years. The Faculty of International Relations received certificate of the public and professional accreditation No. 0128-C for the higher education programme 38.04.01 Economics. The Faculty of Pharmacy received certificate ПОА No. 0137-C for the higher education programme 33.05.01 Pharmacy and certificate № 0136-C for the secondary vocational education programme 33.02.01 Pharmacy (Fig. 4.21).

Figure 4.21

CERTIFICATES OF THE PUBLIC AND PROFESSIONAL ACCREDITATION OF EDUCATION PROGRAMMES ISSUED BY THE UNION OF THE VORONEZH REGIONAL CHAMBER OF COMMERCE AND INDUSTRY


СОЮЗ «ТОРГОВО-ПРОМЫШЛЕННАЯ ПАЛАТА ВОРОНЕЖСКОЙ ОБЛАСТИ»

СВИДЕТЕЛЬСТВО

О ПРОФЕССИОНАЛЬНО-ОБЩЕСТВЕННОЙ АККРЕДИТАЦИИ

№ 0128-С

СОЮЗ «ТОРГОВО-ПРОМЫШЛЕННАЯ ПАЛАТА ВОРОНЕЖСКОЙ ОБЛАСТИ»

СВИДЕТЕЛЬСТВО

О ПРОФЕССИОНАЛЬНО-ОБЩЕСТВЕННОЙ АККРЕДИТАЦИИ

№ 0136-С

30 ноября 2021 г.

Воронеж 2021 год

СОЮЗ «ТОРГОВО-ПРОМЫШЛЕННАЯ ПАЛАТА ВОРОНЕЖСКОЙ ОБЛАСТИ»

СВИДЕТЕЛЬСТВО

О ПРОФЕССИОНАЛЬНО-ОБЩЕСТВЕННОЙ АККРЕДИТАЦИИ

№ 0137-С

30 ноября 2021 г.

Воронеж 2021 год

Among major areas for improvement in terms of university programmes development are the following:

- Raising the academic profile and improving the multilevel system of continuous professional education.
- Development of learning and teaching, information, and material and technical facilities of the educational process which means using efficiently educational resources, including Massive Open Online Courses.
- Creating the marketing system of educational services.
- Development of social partnership between VSU and employers in the Voronezh Region in terms of graduates' trainings and employment.
- Development of the system of further professional education.

4.12. QUANTITATIVE AND QUALITATIVE DATA ON FURTHER EDUCATION

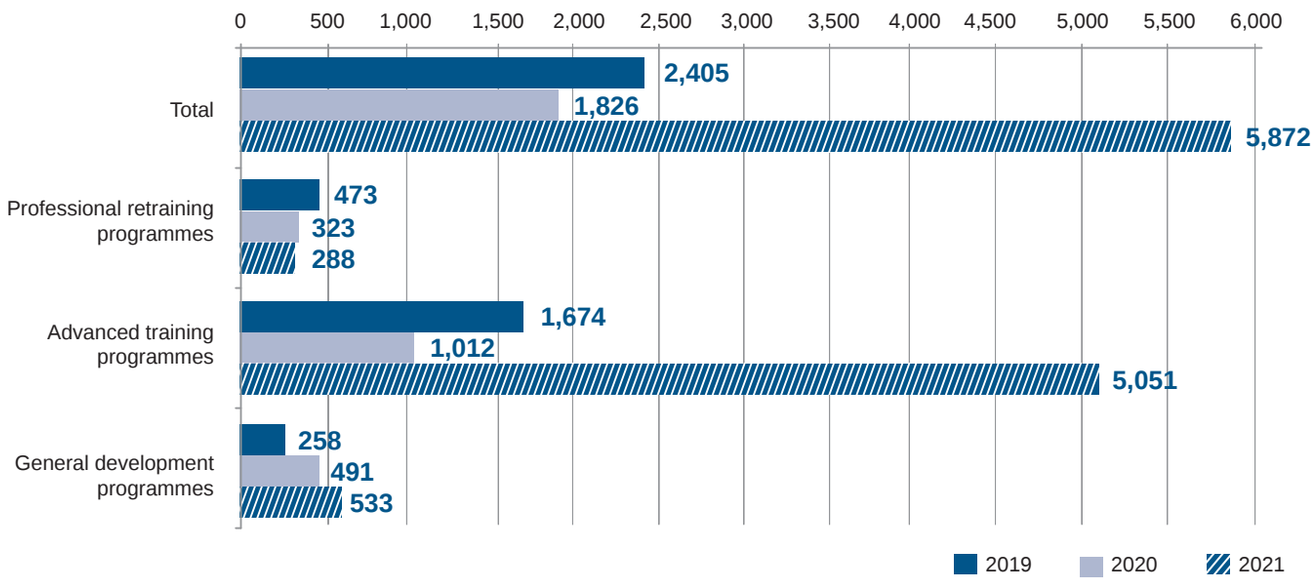
In 2021, 96 further education programmes were implemented at VSU, including:

- 42 general development programmes with 533 students.
- 37 advanced training programmes with 5,051 students.
- 17 professional retraining programmes with 288 students, of whom 130 obtained a new profession.

Overall, 5,872 students participated in the programmes. The dynamics of the number of students at further education programmes is shown in Fig. 4.22.

Figure 4.22

GROWTH DYNAMICS OF THE NUMBER OF STUDENTS AT FURTHER EDUCATION PROGRAMMES AT THE UNIVERSITY



The distribution of students who completed advanced training and professional retraining courses by types of economic activities was the following:

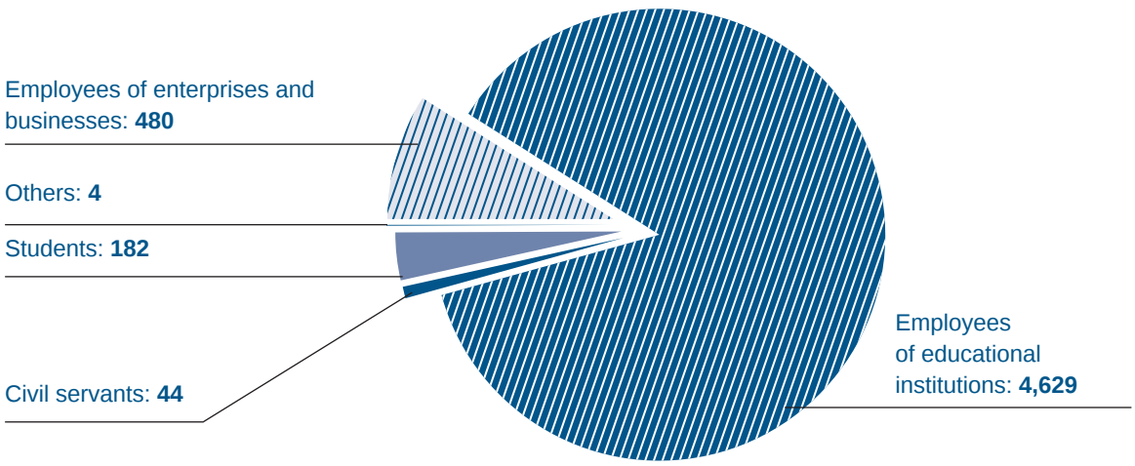
- Education (28 FEP): 3,931 students.
- Healthcare and social services (5 FEP): 1,032 students.
- Economics and management (15 FEP): 323 students.
- Information and communication (3 FEP): 31 students.
- Ecology, extraction of mineral resources, collection and recycling of waste (3 FEP): 22 students.

The distribution of students of further professional education by categories was the following:

- Employees of enterprises and businesses: 480 students.
- Employees of educational institutions: 4,629 students.
- Civil and local government servants: 44 students.
- Students enrolled on the main academic programmes of secondary vocational and higher education: 182 students.
- Others: 4 students (Fig. 4.23).

Figure 4.23

DISTRIBUTION OF THE STUDENTS OF FURTHER PROFESSIONAL EDUCATION PROGRAMMES BY CATEGORIES



Structure of funding sources for further education students in the reporting year[1]:

- Funded by federal budget provisions: 16 students.
- Funded by local budget provisions: 21 students.
- Agreements for commercial educational services: 832 students. Among them: agreements funded by individuals: 748 students, agreements funded by legal entities: 84 students, funded by Voronezh State University: 4,421 students.

[1] Not including students of professional retraining programmes of the state plan programme on training managers for enterprises of the national economy of the Russian Federation (“Finance”, “Marketing”, “Management”).

As for professional retraining programmes of the state plan programme on training managers for enterprises of the national economy of the Russian Federation (“Finance”, “Marketing”, “Management”), there were three co-funding sources according to the agreements for commercial educational services:

- 1/3 funded by federal budget provisions: 49 students.
- 1/3 funded by provisions of regional budgets of the regions of the Russian Federation: 49 students.
- 1/3 funded by agreements funded by individuals: 49 students.

In 2021, further education programmes had 18 students with secondary vocational education, 5,139 students with higher education, and 182 students who were getting a higher education degree.

277 people under 25 years old, 490 people aged 25-29, 1,353 people aged 30-39, 1,344 people aged 40-49, 799 people aged 50-59, and 1,076 people aged 60 or over completed further professional education programmes implemented at the University.

In 2021, 29 further education programmes were opened, including: 4 general development programmes, 23 further professional education programmes, and 2 professional retraining programmes.

In addition to the main academic programmes, the university’s faculties are successfully implementing various professional retraining programmes with certification.

In 2021, the Faculty of Physics awarded 29 diplomas to the graduates of the programme “Teacher of Physics and Astronomy”, the Faculty of Geography, Geoecology, and Tourism awarded 32 diplomas to the graduates of the programme “Teacher of Geography”; the Faculty of Chemistry awarded 18 diplomas to the graduates of the programme “Teacher of Chemistry”; the Faculty of Biomedical Sciences awarded 4 diplomas to the graduates of the programme “Teacher of Biology”, the Faculty of Applied Mathematics, Informatics, and Mechanics awarded 10 diplomas to the graduates of the programme “Web Design and Computer Graphics”, the Faculty of Romance and Germanic Philology awarded 13 diplomas to the graduates of the programme “Teacher of Philology” and 8 diplomas to the graduates of the programme “Translation for Professional Communication”; and the Faculty of Mathematics awarded 8 diplomas to the graduates of the programme “System Engineer”.

In 2021, the Institute for Further Professional Education implemented the following professional retraining programme: Accounting, Analysis, and Audit. 18 students received their diplomas.

The Institute for Further Professional Education opened and implemented the professional retraining programme “Auditing and Supervision” for the management and staff of the Voronezh Regional Federal Treasury Department.

In the framework of the federal project “Employment Assistance” of the national project “Demography” (1st stage in 2021), 4 further professional education programmes were implemented in the format of advanced training: “Human Resource Management”, “Accounting for Taxes: Basic Level”, “Internet Marketing”, and “Modern Techniques of Supporting Students with Disabilities”. The number of students was 33 people, including 30 people (90%) with confirmed employment.

University training centres efficiently organise the implementation of further education programmes. In 2021, the following number of students completed training at the following programmes at the Professor L.T. Gilyarovskaya Resource Centre: “Financial Management” (47 people), “Tax Consulting” (10 people), and “New Developments in Accounting and Reporting. Taxation” (11 people).

6 students completed a programme at the Legal Innovations and Conciliation Procedures Centre, 40 students completed a programme at the Communication Studies Centre, and 13 students completed a programme at the Radiation Safety Centre.

Senior medical staff from the medical institutions of Voronezh and the Voronezh Region completed the professional retraining programme “Management Basics” at the Managers’ Training Centre (33 people). In 2021, 49 heads and executives from various institutions and organisations of Voronezh completed the professional retraining programme “The State Plan for the Training of Management Personnel for the Organisations of the National Economy of the Russian Federation”.

In 2021, 30 students obtained their BBA bachelor’s diplomas at the VSU Business School. The graduates of this programme are students of the Faculty of Economics (the “Management” programme, bachelor’s degree) who successfully master the curricula of two educational programmes, the Main Academic Programme “Business Administration” and a BBA further education programme. Upon the completion of the courses, they get two diplomas, which gives them more competitive advantages at the regional labour market.

In 2021, 8 students completed the professional retraining programme and obtained their MBA diplomas at the VSU Business School.

In 2021, 12 further professional education programmes (10 advanced training programmes; and 2 professional retraining programmes) were prepared and opened in cooperation with employers.

4.13. MAIN ACHIEVEMENTS OF THE UNIVERSITY IN THE FIELD OF EDUCATIONAL ACTIVITY

1. The implementation of all education programmes of the university was ensured in the format of blended learning using e-learning and distance learning technologies.

2. The university admission campaign for the secondary and secondary vocational programmes was organised and held in a blended format to mitigate the risks from the new coronavirus (COVID-19). The efforts of the university in terms of pre-university training ensured the growth in the contingent of students enrolled in the first year in higher and secondary vocational education programmes compared to the admission campaign of 2020. The students admitted to VSU come from all subjects of the Russian Federation with the exclusion of the Nenets Autonomous Okrug.

3. The university provided training within the following higher education programmes: 115 bachelor's degree programmes (51 specialities), 22 specialist's degree programmes (15 specialities), 101 master's degree programmes (39 specialities), 73 PhD programmes (17 research areas), and 3 residency specialities. In 2021, the aggregate normalised contingent of students within academic programmes totalled 16,627 people. The percentage of master's degree and PhD students and residents in the normalised contingent amounted to 14%.

   In 2021, the university implemented primary-level programmes designed for secondary vocational education specialists within seven Federal State Educational Standards including: 09.02.03 Programming in Computer Systems (basic level); 20.02.01 Sustainable Management of Natural and Economic Complexes (basic level); 31.02.04 Optical Eyecare (advanced level); 33.02.01 Pharmacy (basic level); 38.02.01 Economics and Accounting (area-based) (basic level); 42.02.01 Advertising (basic level); and 43.02.10 Tourism (basic level).

4. 208 state examination committees worked during the state final examination. The contingent of students who passed the state final examination was as follows: 4,072 people, including 2,349 bachelor's degree students, 281 specialist's degree students, 1,140 master's degree students, 104 PhD students, 8 residents, and 190 secondary vocational education (SVE) specialists.

5. In the 2020/21 academic year, the following number of students completed programmes within existing networking education agreements:

   - Programme "Russian Literature in the European Context", speciality 45.04.01 Philology, 9 students from VSU, 1 student from the University of Göttingen (Göttingen, Germany).
   - Programme "Business in the Emerging Markets", speciality 38.04.01 Economics, 2 students from VSU.
   - Programme "Human Resource Management in a Company", specialisation 38.03.03 Human Resource Management, 5 students.
   - Programme "Tour Operator and Travel Agency Services Techniques and Management" for speciality 43.03.02 Tourism, 10 students.

6. To support talented students, the university implemented 30 scholarship programmes, including the Scholarship of the President of the Russian Federation in the priority areas, Scholarship of the Government of the Russian Federation in priority areas, grants of the President of the Russian Federation (within the programme “Talent and Success”), and a considerable number of personal scholarships.

7. The informational support of the organisation and management of the educational process at the university provided:

   - Uploading, downloading, and posting the following documents regulating the educational process (the data in brackets shows the increment per year): 347 (+5) State Educational Standards; 3,501 (+120) main academic programmes implemented by VSU; 3,308 (+486) main academic programmes curricula; 58 (+7) SVE academic programmes curricula; 108,058 (+16,452) course syllabuses.
   - Uploading and downloading graduate qualification papers by undergraduate students and scientific reports and graduate qualification papers by postgraduate students, as well as checking these works in the Antiplagiat system. In 2021, 62,774 papers by VSU undergraduate and postgraduate students and employees were checked for plagiarism in the Antiplagiat system.
   - Implementation of the proctoring service to hold 324 entrance exams and 222 final state examinations.

   2,915 e-courses were created to support the blended learning.

   In October 2021, as a result of the external audit conducted by the Certification Association Russian Register (St. Petersburg), the quality management system of VSU passed a certification audit for compliance with the requirements of ISO 9001:2015 and received international recognition.

   The high level of satisfaction among university students and lecturers with the educational process was proved by an independent assessment of quality of education conducted by the Federal Service for Supervision in Education and Science. In 2021, the Faculty of Applied Mathematics, Informatics, and Mechanics, the Faculty of Computer Science, the Faculty of Pharmaceutics, and the Faculty Romance and Germanic Philology underwent independent assessment of quality of education. The assessment of the quality of education was conducted for three bachelor’s degree programmes: 01.03.02 Applied Mathematics and Informatics, 09.03.03 Applied Informatics, and 45.03.02 Linguistics; and one speciality: 33.05.01 Pharmacy.

8. In 2021, 96 further education programmes were implemented at VSU, including:

   - 42 general development programmes with 533 students.
   - 37 advanced training programmes with 5,051 students.
   - 17 professional retraining programmes with 288 students, of whom 130 obtained a new profession. In total, there were 5,872 students.

4.14. OBJECTIVES AND TASKS IN THE FIELD OF EDUCATIONAL POLICY FOR THE 2021/22 ACADEMIC YEAR

The main objectives of the educational policy have been determined within the university's strategy until 2030 aimed at the development of the system for the continuous advanced training of highly qualified specialists together with leading regional and federal industrial, educational, and scientific partners using modern education technologies.

IN THE FIELD OF PRE-UNIVERSITY WORK AND ADMISSION OF STUDENTS

Objective 1. Increase the grade point average of the first-year students admitted to bachelor's and specialist's programmes up to 70 in all forms of study in 2022.

Tasks:

1.1. Optimise the system for the identification, support, and development of young people's abilities and talents by increasing the number of schoolchildren who take part in VSU's academic competitions up to 2,000 people in the 2021/22 academic year.

1.2. The number of students, winners, and awardees of the final stage of the All-Russian Academic Competition among schoolchildren, members of the Russian Federation national teams who took part in international contests in general subjects and/or discipline areas corresponding to the All-Russian Academic Competition profile, who enrolled in full-time bachelor's and specialist's programmes without any admission tests, must be increased up to 15.

1.3. The number of employer-sponsored students who enrolled in full-time bachelor's and specialist's programmes must be no less than the number specified by the employer.

1.4. Minimal average state exam grade of the students who enrolled in full-time bachelor's and specialist's programmes must be no less than 42.

Objective 2. Optimise the loss of student population during the 2022 admission campaign.

Tasks:

2.1. Develop a plan for transition of the university's admission campaign from higher education programmes admission to major groups admission.

2.2. Develop and implement a schedule of activities in order to train admission campaign employees and subdivisions that provide for the digital and technical support of the admission campaign.

Objective 3. Ensure at least 7% of international students in the total amount of first-year students who were admitted to bachelor's and specialist's programmes.

Tasks:

3.1. Create a schedule of activities in order to attract international students to study the main and additional educational programmes of VSU.

3.2. Increase the percentage of international students at the International Education Institute enrolling on the main educational programmes up to 70%.

3.3. Develop the website for the admission campaign in Arabic.

Objective 4. Increase the revenue from additional general education programmes (pre-study courses) by 5% compared to the previous year.

Tasks:

4.1. Launch at least two general education programmes for advanced learning and preparation for academic competitions.

4.2. Increase the number of students in general education programmes by 7% compared to the previous year.

IN THE FIELD OF MAIN PROFESSIONAL EDUCATIONAL PROGRAMMES

Objective 1. Ensure the achievement of target parameters of university educational performance in 2022.

Tasks:

1.1. Increase the percentage of the student population (given contingent) enrolled in master's degree programmes in the total number of the given contingent enrolled in bachelor's, specialist's, and master's degree programmes up to 18%.

1.2. Increase the percentage of students (given contingent) of master's degree and academic staff training programmes (post-graduate students, interns, residents) in the total number of the given contingent enrolled in the main academic programmes of higher education up to 20%.

1.3. Increase the percentage of students with a bachelor's, specialist's or master's degrees obtained at another institution who enrolled in the first year of master's degree programmes of the educational institution in the total number of students who enrolled in full-time master's degree programmes up to 20%.

Objective 2. Ensure the transition to the modular principle of the implementation of educational programmes until 2024.

Tasks:

2.1. Develop a schedule of activities for the university's transition to the implementation of modular educational programmes with individual educational paths.

2.2. Based on the results of the study of the student contingent performance and integrity, create a list of trial educational programmes that will be implemented using individual educational paths starting from the 2022/23 academic year.

2.3. Introduce digital academic record books for the subjects and practical classes of higher education programmes.

2.4. Choose a digital platform for the individual educational paths of students.

Objective 3. Adjust postgraduate educational programmes in accordance with the federal state requirements starting from 2022.

Tasks:

3.1. Modify local regulations concerning the implementation of postgraduate programmes in accordance with the new requirements of the federal legislation.

3.2. Organise consultations with the supervisors of postgraduate programmes in order to adjust to the new requirements.

3.3. The supervisors of postgraduate programmes are expected to post the list of the required documents for postgraduate programmes on the "Electronic University VSU" by 1 April 2022.

Objective 4. Perform an independent assessment of the quality of education in all major groups of fields of study and specialities over the course of the year.

IN THE FIELD OF FURTHER EDUCATION

Objective 1. Increase the revenue from the implementation of further professional education programmes and general development programmes up to 50 million roubles.

Task:

Increase the percentage of students from external organisations in the total number of students completing further professional training or professional retraining programmes up to 20%.

Objective 2. Develop technologies allowing students to obtain an additional qualification within the main academic programme.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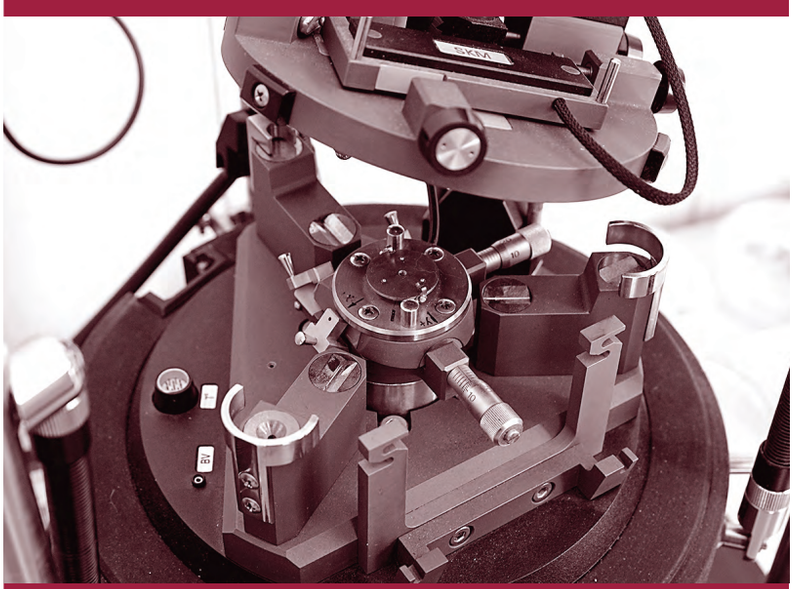



X-RAYS ON
Ready
On
Alarm
Busy
BRUKER


БЛАГОДАРСТВЕННОЕ ПИСЬМО

RESEARCH, INNOVATIONS, AND INFORMATISATION

5

5

RESEARCH, INNOVATIONS, AND INFORMATISATION

O.A. Kozaderov,
Vice Rector for Research and Innovations

5.1. MAIN OBJECTIVES OF VSU IN THE AREA OF RESEARCH, INNOVATIONS, AND INFORMATISATION FOR THE YEAR 2021

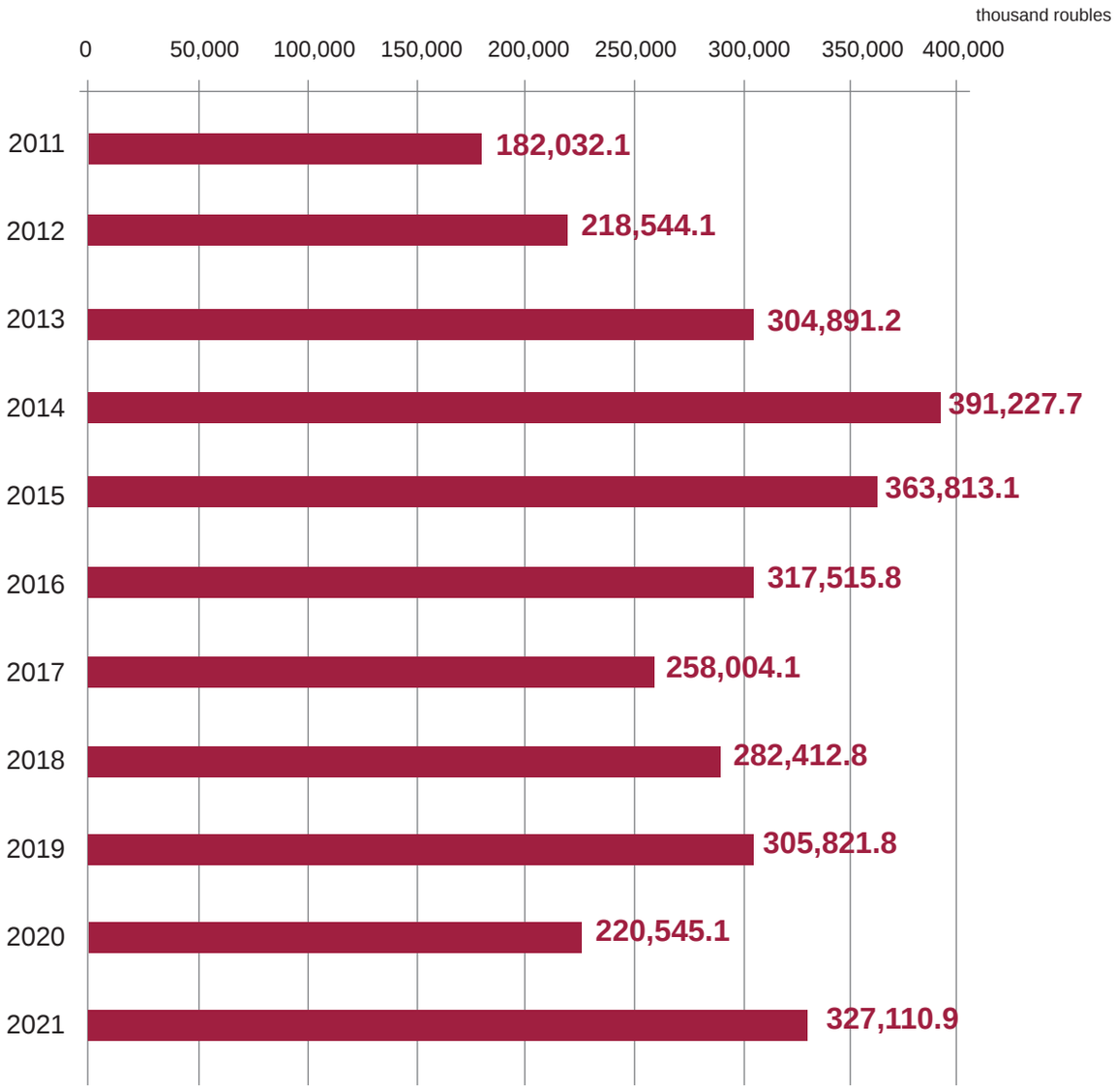
1. To increase the total number of applications from employees and research laboratories for participation in the competitions of the national project “Science”, scientific funds, within the framework of Decree of the Government of the Russian Federation No. 220, and implementing at least 5% of international projects.
2. To organise the work aimed at getting VSU scientific journals included in the international Scopus database.
3. To continue improving the scientific indices and publication records.
4. To encourage VSU researchers to actively participate in various scientific contests and competitions organized by Russian research foundations, international and national projects, and federal target programmes.
5. Achieve a total R&D projects index of more than 300 million roubles.
6. Participate in a competition to receive federal funding for the program of activities of the regional centre for research and education in the Voronezh Region.
7. To increase the efficiency of technology commercialisation, including on the basis of small innovative businesses.
8. To increase the total number of joint applications with industrial partners for participation in tenders within the framework of the FTP, Decree of the Government of the Russian Federation No. 218 by at least 5%.

5.2. RESEARCH FUNDING IN 2011–2021

In 2019, total funding for research projects amounted to 327.1 million roubles, which is 106.6 million roubles more than the previous year (Fig. 5.1).

Figure 5.1

RESEARCH FUNDING IN 2011-2021 (THOUSAND ROUBLES)



5.3. VSU RESEARCH FUNDING IN 2021 BY SOURCE

For funding projects under the Government Order by the Ministry of Education and Science of the Russian Federation for higher education institutions in the area of scientific research 29.3 million roubles (9.0%) was received. From the grant with federal budget financing by means of subsidies within the framework of the project on the topic “Distributed infrastructure of precision diagnostic methods in ultra-soft X-ray spectrum of synchrotron radiation for functional materials and nanoscale structures, including nano-, bio-, and hybrid materials, for the benefit of promising technologies and technical systems: from education technologies and fundamental research to practical application” 85.0 million roubles (26.0%) was received. 142.4 million roubles (43.5 %) constituted grants from the Russian foundations supporting scientific and technical research.

In 2021, state funding constituted 81.3% of the total funding, 14.7% came from industrial enterprises and other organisations that were interested in innovations and planned to implement the results of the research conducted at VSU within their production processes.

The sources of VSU’s research funds are listed in Table 5.1.

Table 5.1

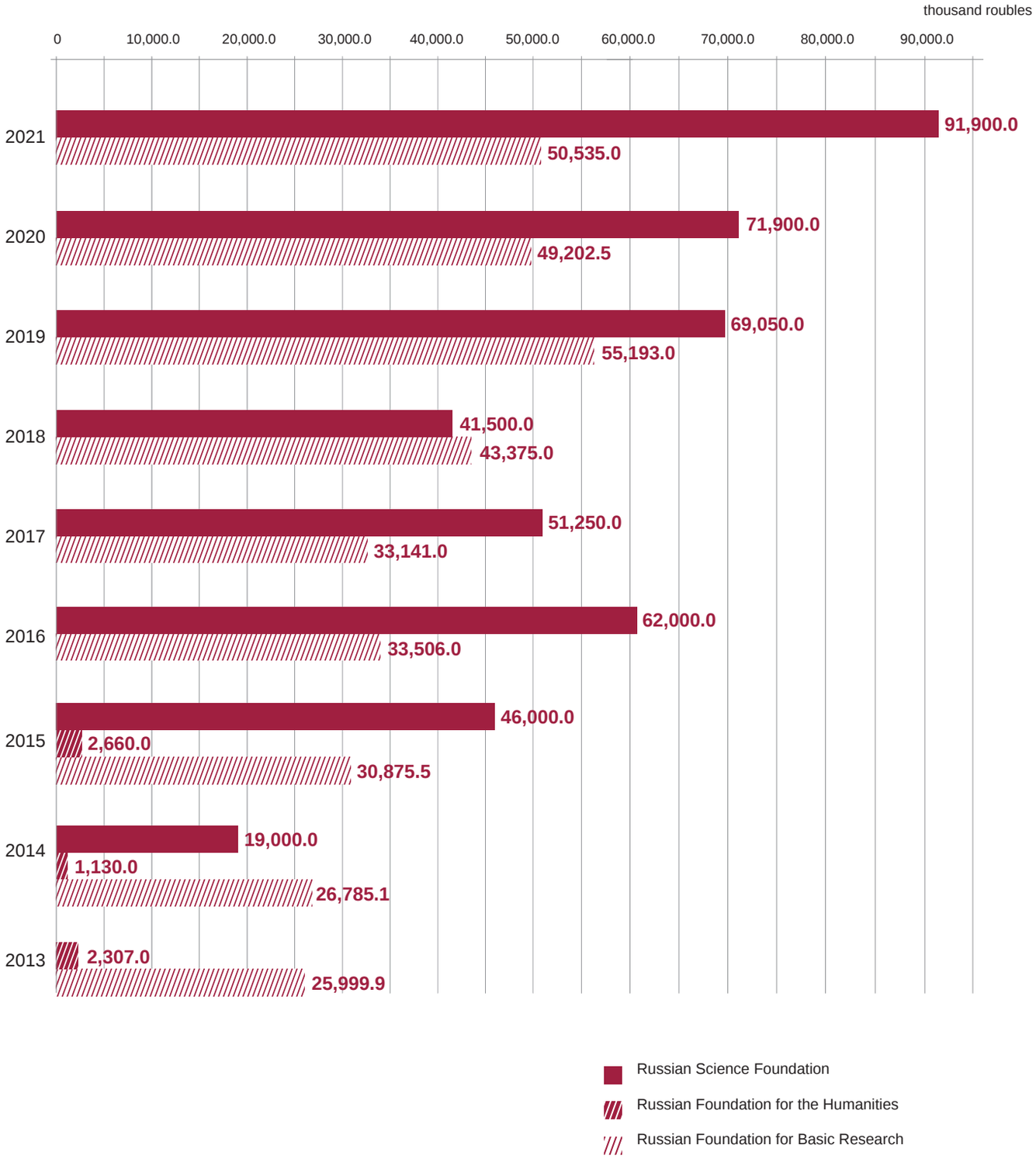
SOURCES OF VSU’S RESEARCH FUNDS IN 2021

Sources of funding	Percent
Ministry of Science and Higher Education of the Russian Federation	37.6
Russian foundations supporting scientific and technical research and innovations	43.5
Federation subjects and local budget	0.1
Russian economic entities	14.7
Other non-governmental organisations in Russia and VSU funds	2.8
International sources	1.3

Research funding coming from Russian scientific foundations are shown are shown in fig. 5.2.

Figure 5.2

RESEARCH FUNDING COMING FROM RUSSIAN SCIENTIFIC FOUNDATIONS (THOUSAND ROUBLES)



5.4. PAPERS PUBLISHED BY VSU'S ACADEMIC STAFF IN 2021

Table 5.2

PAPERS PUBLISHED BY VSU'S ACADEMIC STAFF IN 2021

No.	Indicator	2020	2021
1	Published articles (database "Academic staff articles")	4,600	4,900
2	Published articles (Russian Science Citation Index database)	3,984	4,286
3	Total number of citations (Russian Science Citation Index database)	15,634	13,749
4	Total H-index (Russian Science Citation Index database)	140 (23rd place)	149 (25th place)
5	Articles published in journals indexed by Web of Science	295	283
6	Total number of citations per year (Web of Science)	2,849	3,044
7	Articles published in journals indexed by Scopus	481	486
8	Total number of citations per year (Scopus)	3,832	4,211

Additional data from the Academic staff articles database:

- Number of monographs: 2020 - 75, 2021 - 72.
- Number of text books: 2020 - 368, 2021 - 438.
-

Table 5.3

FACULTIES LISTED ACCORDING TO THE HIRSH INDEX (RUSSIAN SCIENCE CITATION INDEX DATA)

No.	Faculty name	Hirsch Index
1	Faculty of Law	81
2	Faculty of Philology	63
3	Faculty of Economics	60
4	Faculty of Biomedical Sciences	52
5	Faculty of Physics	51
6	Faculty of Mathematics	47
7	Faculty of Romance and Germanic Philology	45
8	Faculty of Geology	42
9	Faculty of Chemistry	41
10	Faculty of Applied Mathematics, Informatics, and Mechanics	38
11	Faculty of Geography, Geoecology, and Tourism	38
12	Faculty of History	33
13	Faculty of Philosophy and Psychology	28
14	Faculty of Computer Sciences	28
15	Faculty of Journalism	26
16	Faculty of Pharmaceutics	23
17	Faculty of International Relations	20
18	International Education Institute	17
19	Military training centre	5
20	Department of Physical Education and Sports	3

Table 5.4

AUTHORS LISTED ACCORDING TO THE HIRSCH INDEX (RUSSIAN SCIENCE CITATION INDEX DATA)

No.	Name	Hirsch Index
1	Iosif A. Sternin	61
2	Dmitry A. Endovitsky	41
3	Yuriy N. Starilov	39
4	Yury I. Treschevsky	36
5	Arkady D. Savko	34
6	Nikolay L. Manakov	33
7	Evelina P. Domashevskaya	28
8	Marina V. Sentsova	27
9	Larisa S. Korobeinikova	27
10	Anatoly G. Baskakov	26
11	Victor N. Glaznev	26
12	Vasily N. Popov	26
13	Vladimir B. Mikhno	25
14	Pavel V. Seredin	25
15	Vladimir M. Kashkarov	24
16	Vladimir F. Selemenev	23
17	Oleg P. Negrobov	23
18	Igor E. Risin	23
19	Semyon A. Kurolap	23
20	Pavel N. Biryukov	23
21	Vladimir A. Shaposhnik	23
22	Mikhail V. Frolov	23
23	Vyacheslav V. Provotorov	23

Figure 5.3

NUMBER OF PAPERS BY VSU STAFF ACCORDING TO WEB OF SCIENCE CORE COLLECTION

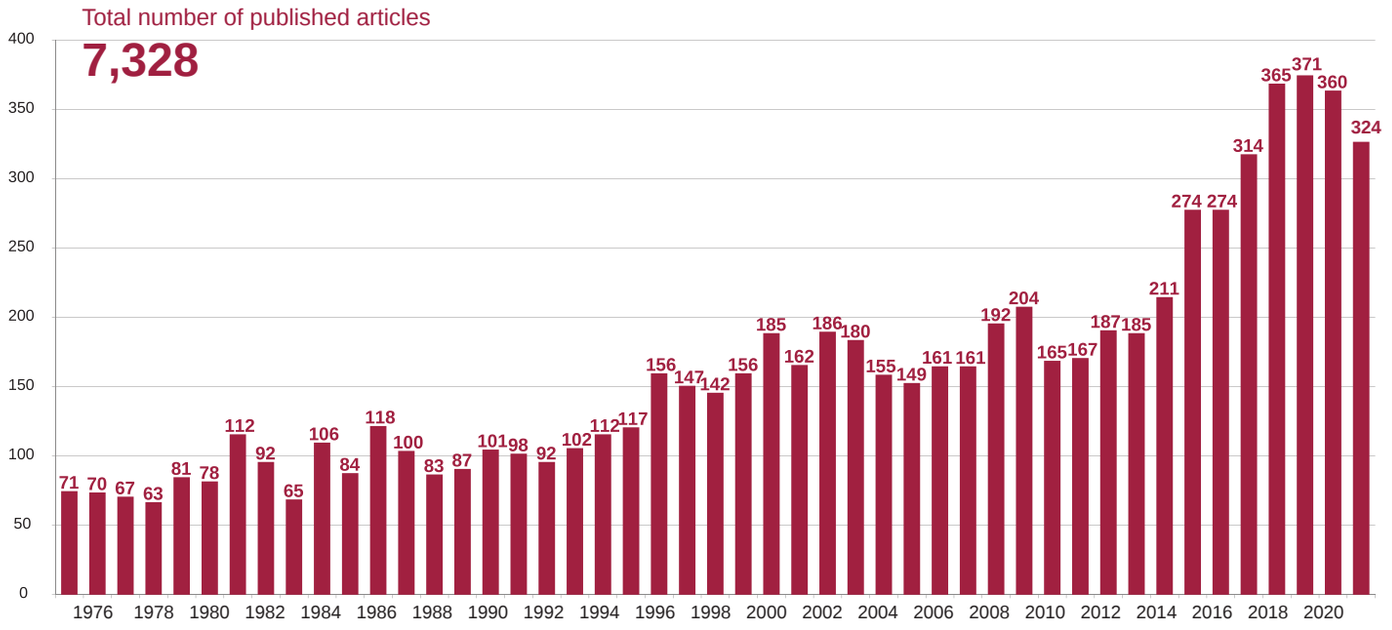
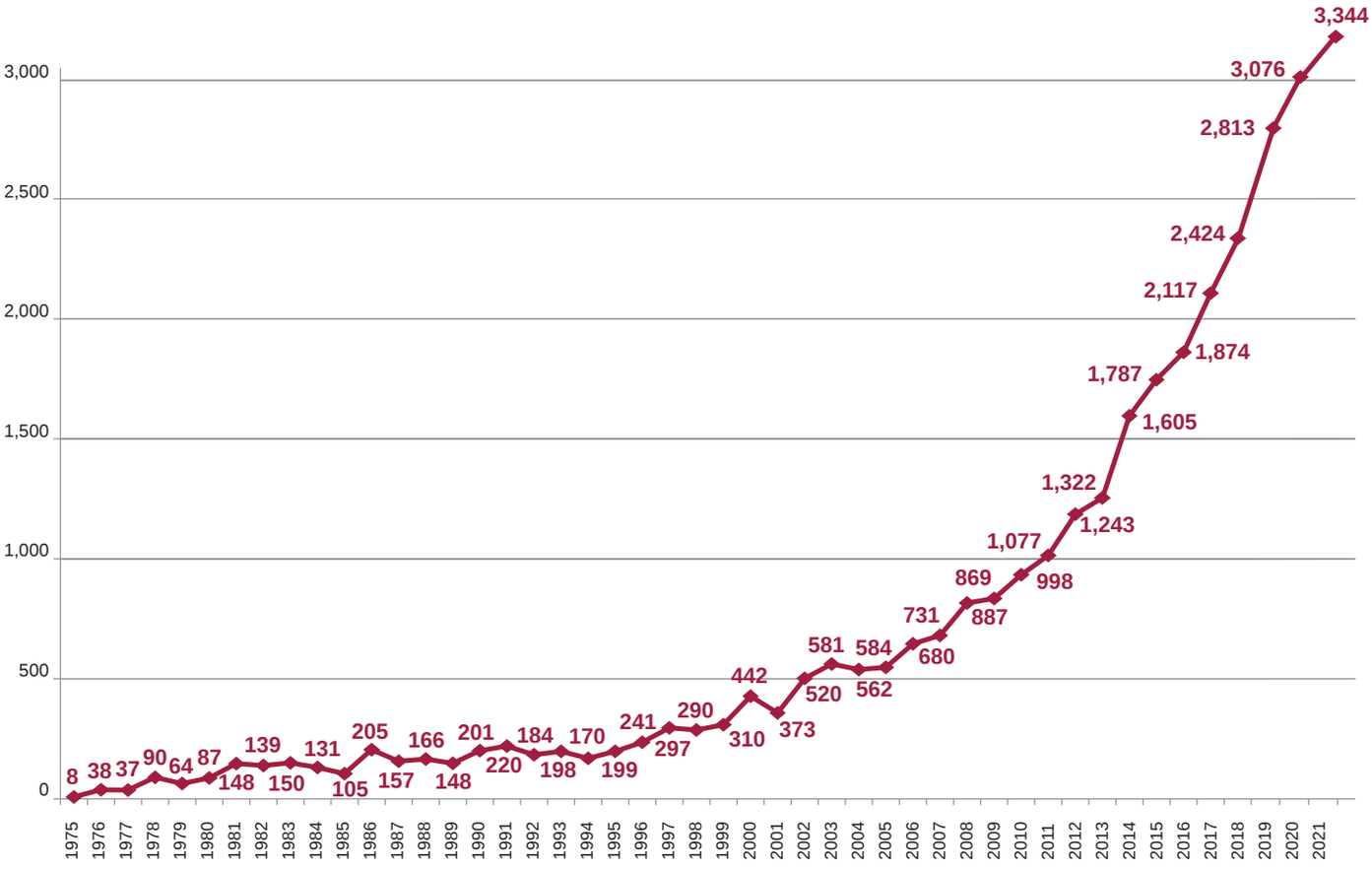


Figure 5.4

CITATION DATA ACCORDING TO WEB OF SCIENCE CORE COLLECTION



5.5. VSU ACADEMIC AND SCIENTIFIC SCHOOLS AND RESEARCH AREAS

THERE ARE 29 MAJOR RESEARCH AREAS IN VSU, WHICH CORRESPOND TO PRACTICALLY ALL THE RESEARCH AREAS OF CLASSICAL UNIVERSITIES

1. Analytical, geometric and numerical methods for studying differential equations.
2. Function theory and functional analysis.
3. Mathematical modelling, software and dataware, methods of numerical and applied mathematics in fundamental scientific research.
4. Deformable body and fluid mechanics.
5. Solid-state nanostructures. Physics of magnetic and ferroelectric phenomena. Semiconductors and semiconductor structures. Microwave solid-state devices.
6. Fundamental nuclear physics. Cosmic-ray physics and the nuclear aspects of astrophysics. Nuclear physics issues.
7. Fundamental issues of material-radiation interaction.
8. Issues of information transfer, acquisition, processing, and storage. Radioelectronic device electromagnetic compatibility.
9. High-temperature processes in chemistry and materials science.
10. Catalysis, phase equilibrium, physical and chemical processes in solutions, melts, and solid bodies.
11. Surface phenomena, colloidal particles and nanoparticles, and clusters.
12. Directed synthesis and extraction of physiologically active chemical compounds and special-purpose substances. Biologically active synthetic and natural compounds and low molecular weight bioregulators.

13. Ecological, physiological, physical, and chemical foundations of interactions between biosystems and the environment.
14. Soil genesis and evolution influenced by natural and anthropogenic factors.
15. The deep structure of the Earth's crust, geodynamics, magma generation and deposit generation, and accumulation conditions in the Precambrian in platform sedimentary basins and fold belts.
16. Ecological and geographical aspects of the interactions between society and the environment.
17. The scientific foundation of social and economic policies and business practice.
18. Economics management system: emergence and development.
19. Individuals as subjects of social change: social, humanitarian, and psychological concerns.
20. Archaeology and ethnography of the Central Black Earth Region.
21. Russian and European History.
22. International literatures and languages and their interaction. The issue of international communication.
23. A contrastive-comparative study of Germanic, Romance, and Slavic languages and cultures.
24. Mass media history, theory, and practice.
25. The Russian state and its legal framework: modern development, concerns, and prospects.
26. Educational processes in the changing sociocultural environment, acmeology.
27. Social and political processes, crises, and conflicts.
28. The theory, methodology, and policies of accounting, analysis, and monitoring the activity of economic entities.
29. Supercomputer technologies, quantum and distributed computing, and big data.

THERE ARE 43 ACADEMIC AND SCIENTIFIC SCHOOLS AT VSU

1. Topological Methods in Nonlinear Analysis

Founded by Professor Y. G. Borisovich, DSc in Physics and Mathematics, Honoured Scientist of Russian Federation.

Head Researcher - Professor V. G. Zvyagin, DSc in Physics and Mathematics

A leading scientific school

2. Mathematical analysis

Head Researcher - Professor E. M. Semenov, DSc in Physics and Mathematics

3. Differential equations, optimal management, and nonlinear oscillation theory

Head Researcher - Professor A. I. Perov, DSc in Physics and Mathematics

4. Qualitative methods for boundary value problems in complex environment and spatial networks

Founded by Professor Yu. V. Pokorny, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

5. Solid mechanics

Head Researcher - Professor A. N. Sporykhin, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

6. Theoretical physics (fundamental issues of interaction of optical radiation with atoms and molecules)

Founded by Professor L. P. Rapoport, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

Head Researcher in the subdivision “Formation of multiply charged ions in a strong laser field. Linear and nonlinear susceptibilities of atoms and diatomic molecules” - Professor B. A. Zon, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

Head Researcher in the subdivision “Interactions of intense short and ultra-short laser fields with atomic and molecular systems” - Professor N. L. Manakov, DSc in Physics and Mathematics

A leading scientific school

7. Radiophysics (enhancing electromagnetic compatibility of radio-electronic equipment by improving the radio receiving equipment and its elements)

Head Researcher - Professor E. A. Algazinov, DSc in Physics and Mathematics

8. Statistical radiophysics and informatics

Founded by the Honoured Scientist of the Russian Federation Professor A. P. Trifonov, DSc in Technical Sciences

Head Researcher - Professor Yu. S. Radchenko, DSc in Physics and Mathematics

A leading scientific school

9. Photostimulated processes on crystals with ion and covalent bonds

Headed by the Honoured Scientist of the Russian Federation Professor A. N. Latyshev, DSc in Physics and Mathematics

10. Atomic and electron structure of condensed matter and nanostructures

Head Researcher - Professor E. P. Domashevskaya, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation, Associate Member of the Russian Academy of Sciences

A leading scientific school

11. Nuclear and condensed matter physics

Head Researcher - Professor S. G. Kadmensky, DSc in Physics and Mathematics, Honoured Scientist of the Russian Federation

12. Chemistry (directed synthesis of physiologically active chemical compounds, polymer, and their special-purpose dispersion)

Head Researcher - Professor G. V. Shatalov, DSc in Chemistry

13. Chemistry of solids and semiconductors

Founded by Professor Ya. A. Ugai, DSc in Chemistry, USSR National Prize in Science laureate, Honoured Scientist of the Russian Federation, Full Member of the International Academy of Higher Education

Head Researcher in the subdivision “Physical and chemical principles of the synthesis of solid materials for microelectronics” - Professor G. V. Semenova, DSc in Chemistry

Head Researcher in the subdivision “Study of semiconductors and nanostructured functional films based on them” - Professor I. Ya. Mittova, DSc in Chemistry

A leading scientific school

14. Chemistry of ion exchange and membrane processes

Head Researcher - Professor V. F. Selemenev, DSc in Chemistry, Honoured Scientist of the Russian Federation

15. Electrochemistry of metals and alloys

Founded by Professor I. K. Marshakov, DSc in Chemistry, Honoured Scientist of the Russian Federation

Head Researcher - Professor A. V. Vvedensky, DSc in Chemistry

A leading scientific school

16. Solid state chemistry (physicochemistry of heterogeneous equilibria)

Head Researcher - Professor E. G. Goncharov, DSc in Chemistry

17. Biophysics (the functioning of complex (oligomeric) protein systems in various microenvironments)

Head Researcher - Professor V. G. Artyukhov, DSc in Biology, Honoured Scientist of the Russian Federation

18. Classification, fauna, and ecology of invertebrates: entomology, ecology, hydrology, and parasitology

Founded by Professor O. P. Negrobov, DSc in Biology

19. Plant metabolism organisation and regulation

Head Researcher - Professor A. T. Epryntsev, DSc in Biology, Honoured Scientist of the Russian Federation

20. Soil genesis, evolution, and ecology in Central Russia

Founded by Professor A. P. Scherbakov, DSc in Biology, Full Member of the Russian Academy of Agricultural Sciences, State Prize of the Russian Federation laureate, Honoured Scientist of the Russian Federation

A leading scientific school

21. Soil studies (soil genesis, evolution, structure, and biospheric functions)

Founded by Professor B. P. Akhtyrtsev, DSc in Biology, Honoured Scientist of the Russian Federation

Head Researcher - Professor T. A. Devyatova, DSc in Biology

22. Geodynamics, magmatism, and metallogeny of the Early Precambrian history of the Earth

Founded by Professor N. M. Chernyshov, DSc in Geology, Associate Member of the Russian Academy of Sciences, Honoured Scientist of the Russian Federation

Head Researcher - Professor V. M. Nenakhov, DSc in Geology

A leading scientific school (participated in the state support programme for the leading scientific schools in Russia)

23. Lithology and minerals of ancient platforms

Head Researcher - Professor A. D. Savko, DSc in Geology, Honoured Geologist of the Russian Federation

24. Historical sciences

Head Researcher - Professor A. Z. Vinnikov, DSc in History

25. Historical sciences

Head Researcher - Professor M. D. Karpachev, DSc in History, Honoured Scientist of the Russian Federation

26. East European forest-steppe archaeology

Founded by Professor A. D. Pryakhin, DSc in History, Honoured Scientist of the Russian Federation

Head Researcher - Professor A. P. Medvedev, DSc in History

A leading scientific school

27. Economics theory and the global economy

Founded by Professor Yu. I. Khaustov, DSc in Economics

28. Labour market research methodology

Head Researcher - Professor I. T. Korogodin, DSc in Economics

29. Management

Founded by Professor V. N. Eytingon, PhD in Economics, Honoured Economist of the Russian Federation

Head Researcher - Professor Yu. I. Treschevsky, DSc in Economics

A leading scientific school

30. Philosophy. Philosophy of science

Head Researcher - Professor A. S. Kravetz, DSc in Philosophy, Honoured Scientist of the Russian Federation

A leading scientific school

31. Russian literature studying and teaching

Head Researcher - Professor V. M. Akatkin, DSc in Philology, Honoured Scientist of the Russian Federation

32. Literary studies (literary anthropology and author's role in Russian literature of the 19th century)

Head Researcher - Professor B. T. Udodov, DSc in Philology, Honoured Scientist of the Russian Federation

33. History of journalism

Founded by Professor L. E. Kroichik, DSc in Philology

34. Linguistics. Slavic onomastics

Head Researcher - Professor G. F. Kovalev, DSc in Philology

35. Linguistics (Romance and Germanic languages)

Founded by Professor Yu. A. Rylov, DSc in Philology

36. Global and Russian linguistics

Founded by Professor Z. D. Popova, DSc in Philology, Honoured Scientist of the Russian Federation

Head Researcher - Professor I. A. Sternin, DSc in Philology, Honoured Scientist of the Russian Federation

A leading scientific school

37. Physical geography, geophysics, and landscape geochemistry

Head Researcher - Professor V. I. Fedotov, DSc in Geography

38. Administrative and Administrative procedure law

Head Researcher - Professor Yu. N. Starilov, DSc in Law, Honoured Scientist of the Russian Federation

A leading scientific school

39. Pedagogics

Founded by Professor N. I. Vyunova, DSc in Pedagogics

40. Political sciences

Head Researcher - Professor A. V. Glukhova, DSc in Politics

41. Physicochemistry and technology of thin-film materials and nanomaterials

Head Researcher - Professor V. M. Ievlev, DSc in Physics and Mathematics, Full Member of the Russian Academy of Sciences

A leading scientific school (participated in the state support programme for the leading scientific schools in Russia)

42. Analysis and audit

Head Researcher - Professor D. A. Endovitsky, DSc in Economics

A leading scientific school

43. Photoprocesses in nanostructures

Head Researcher - Professor O. V. Ovchinnikov, DSc in Physics and Mathematics (participates in the state support programme for the leading scientific schools in Russia)

A leading scientific school

5.6. PERFORMANC OF VSU DISSERTATION BOARDS

In 2021, 14 dissertation boards in 30 fields of study were operating at VSU. There were also 4 joint dissertation boards operating in 6 fields of study (Table 5.5).

Table 5.5

DISSERTATION BOARDS AS OF 1 JANUARY 2022

Code of the dissertation board, fields of study	Chairperson, Academic Secretary Contact Information
24.2.288.01 (D 212.038.01) 5.7.1 (09.00.01) - Ontology and epistemology 5.7.7 (09.00.11) - Social and political philosophy	**Alexandr S. Kravets -** Chairperson **Irina Yu. Tikhonova** - Academic Secretary Phone: +7 (473) 255-08-57 Email: dekanat@phypsy.vsu.ru
24.2.288.02 (D 212.038.03) 1.5.2 (03.01.02) - Biophysics 1.5.4 (03.01.04) - Biochemistry	**Valery G. Artyukhov** - Chairperson **Margarita Yu. Grabovich** - Academic Secretary Phone: +7 (473) 220-89-81 E-mail: artyukhov@bio.vsu.ru
24.2.288.03 (D 212.038.06) 1.3.3 (01.04.02) - Theoretical physics 1.3.6 (01.04.05) - Optics 1.3.8 (01.04.07) - Condensed Matter Physics	**Oleg V. Ovchinnikov** - Chairperson **Dmitry L. Goloschapov** - Academic Secretary Phone: +7-920-459-40-93 E-mail: goloshchapov@phys.vsu.ru
24.2.288.04 (D 212.038.08) 1.4.1 (02.00.01) - Inorganic chemistry 1.4.4 (02.00.04) - Physical chemistry 1.4.6 (02.00.05) - Electrochemistry	**Alexander V. Vvedensky** - Chairperson **Boris V. Sladkopevtsev -** Academic Secretary Phone: +7 (473) 220-85-46 E-mail: dp-kmins@yandex.ru
24.2.288.05 (D 212.038.10) 1.3.4 (01.04.03) - Radiophysics 1.3.11 (01.04.10) - Semiconductor physics 2.3.1 (05.13.01) - Analysis, management and information processing	**Vladimir A. Terekhov** - Chairperson **Vladislav A. Stepkin** - Academic Secretary Phone: +7-920-469-45-30 E-mail: stepkin@phys.vsu.ru
24.2.288.06 (D 212.038.12) 5.6.1 (07.00.02) - Russian history 5.6.3. (07.00.06) - Archaeology	**Mikhail D. Karpachev** - Chairperson **Elena Yu. Zakharova** - Academic Secretary Phone: +7 (473) 224-75-14 Email: m-karpach@mail.ru; ez@hist.vsu.ru
24.2.288.07 (D 212.038.19) 1.4.2 (02.00.02) - Analytical chemistry 1.4.3 (02.00.03) - Organic chemistry 1.4.15 (02.00.21) - Solid State chemistry	**Viktor N. Semenov** - Chairperson **Nadezhda V. Stolpovskaya -** Academic Secretary Phone: +7 (473) 220-89-73 Email: kcmf@main.vsu.ru
D 212.038.07 10.02.01 - Russian language 10.02.19 - Linguistic theory (Period of validity of the dissertation board until 16.10.2022)	**Alexey A. Kretov** - Chairperson **Inna A. Merkulova** - Academic Secretary Phone: +7 (473) 276-92-61 E-mail: a_a_kretov@rambler.ru
D 212.038.14 10.01.01 - Russian literature 10.01.03 - International literature (literature of the countries of Germanic and Romance language families) (Period of validity of the dissertation board until 16.10.2022)	**Viktor M. Akatkin** - Chairperson Alexander A. Zhitenev - Academic Secretary Phone: +7 (473) 255-99-49, 220-89-41 Email: msv2012kafedra@yandex.ru; pravdukhina@phil.vsu.ru
D 212.038.15 08.00.01 - Economic theory 08.00.05 - Economics and national economy management (by field and sphere of activity, including labour economics, regional economics) (Period of validity of the dissertation board until 16.10.2022)	**Tatiana N. Gogoleva** - Chairperson **Galina V. Golikova** - Academic Secretary Phone: +7 (473) 228-11-60*5130 E-mail: tgogoleva2003@mail.ru
D 212.038.16 10.02.04 - Germanic languages 10.02.05 - Romance languages (Period of validity of the dissertation board until 16.10.2022)	**Natalia A. Fenenko** - Chairperson **Pavel B. Kuzmenko** - Academic Secretary Phone: +7-960-110-41-78 E-mail: fenenko@rgph.vsu.ru

End of table 5.5

Code of the dissertation board, fields of study	Chairperson, Academic Secretary Contact Information
D 212.038.18 10.01.10 - Journalism (Period of validity of the dissertation board until 16.10.2022)	**Vladimir V**. **Tulupov** - Chairperson **Alexander A. Kazhikin** - Academic Secretary Phone: +7 (473) 274-52-71 E-mail: vlvtul@mail.ru
D 212.038.20 05.13.17 - Theory of Informatics 05.13.18 - Mathematical modelling, numerical methods, and program systems. (Period of validity of the dissertation board until 16.10.2022)	**Vladimir G. Zadorozhniy** - Chairperson **Sergey A. Shabrov** - Academic Secretary Phone: +7 (473) 220-84-01, 220-86-90 E-mail: shaspoteha@mail.ru
D 212.038.23 08.00.12 - Accounting, statistics (Period of validity of the dissertation board until 16.10.2022)	**Dmitry A. Endovitsky** - Chairperson **Tatyana A. Pozhidaeva** - Academic Secretary Phone: +7 (473) 275-57-27, 239-29-33 Email: endov@econ.vsu.ru
99.2.003.03 (D 999.010.03) 5.8.1 (13.00.01) - General pedagogics, history of pedagogics and education 5.8.7 (13.00.08) - Methodology and technology of professional education Voronezh State University Lipetsk State Pedagogical P. Semenov-Tyan-Shansky University Russian Air Force Military Educational and Scientific Centre “Air Force Academy named after Professor N.E. Zhukovsky and Y.A. Gagarin” (Voronezh)	**Lyubov V. Kovtunenko** - Chairperson **Elena V. Krivotulova** - Academic Secretary Phone: +7 (473) 255-72-01; +7-908-134-12-52 E-mail: kovtunenkolv@mail.ru
99.2.031.03 (D 999.109.03) 2.3.1 (05.13.01) - System analysis, management and information processing (information and technical systems) 2.3.3 (05.13.06) - Automation and control of the technological processes and production Voronezh State Technical University Voronezh State University Lipetsk State Technical University	**Semyon L**. **Podvalny** - Chairperson **Tatyana M. Ledeneva** – Vice-Chairperson **Anatoly K. Pogodaev** – Vice-Chairperson **Svetlana Y. Beletskaya** - Academic Secretary Phone: +7 (473) 243-77-18
99.2.059.02 (D 999.191.02) 1.1.8 (01.02.04) - Solid mechanics Tula State University, Voronezh State University	**Alexey A. Markin** - Chairperson **Alexander I**. **Shashkin** – Vice-Chairperson **Vadim V. Glagolev** - Academic Secretary Phone: +7 (4872) 73-44-44; 73-44-50
D 999.159.03 08.00.05 - Economics and national economy management (by field and sphere of activity, including labour economics and regional economics) Southwest State University, Orel State University of Economics and Trade, Voronezh State University **(The activities of the of the dissertation committee was terminated from 01.11.2021)**	**Yulia V. Vertakova** - Chairperson **Inna G**. **Parshutina** – Vice-Chairperson **Yuri I**. **Treshchevsky** – Vice-Chairperson **Yulia S**. **Polozhentseva** - Academic Secretary Contact phone: +7 (4712) 22-26-46

In 2021, 60 dissertations were defended at Voronezh State University dissertation boards, including 5 doctoral dissertations and 55 PhD dissertations. 6 dissertations were defended by postgraduate students graduating in 2021, 3 DSc and 11 PhD dissertations were defended by university staff members (Table 5.6).

5.7

Table 5.6

NUMBER OF PEOPLE WHO OBTAINED THEIR PHD AND DSC DEGREES IN 2021, BY THE FIELD OF STUDY

Code of the dissertation board	Code of the fields of study of the board	The number of dissertations considered in 2021						
		PhD				DSc		
		Total	university staff	PhD students of VSU (graduation of 2021)	external applicants	Total	university staff	external applicants
24.2.288.01 D 212.038.01)	**5.7.1** - Ontology and epistemology **5.7.7** - Social and political philosophy	- 4	- 1	- -	- 3	- -	- -	- -
24.2.288.02 (D 212.038.03)	**1.5.2** - Biophysics **1.5.4** - Biochemistry	2 1	- 1	- -	2 -	- -	- -	- -
24.2.288.03 (D 212.038.06)	**1.3.3** - Theoretical physics **1.3.6** - Optics **1.3.8** - Condensed matter physics	- 1 -	- - -	- 1 -	- - -	- 1 -	- 1 -	- - -
24.2.288.04 (D 212.038.08)	**1.4.1** - Inorganic chemistry **1.4.4** - Physical chemistry **1.4.6** - Electrochemistry	- - -	- - -	- - -	- - -	- 1 -	- 1 -	- - -
24.2.288.05 (D 212.038.10)	**1.3.4** - Radiophysics **1.3.11** - Semiconductor physics **2.3.1** - System analysis, management and information processing	2 1 -	- 1 -	1 - -	1 - -	- 1 -	- 1 -	- - -
24.2.288.06 (D 212.038.12)	**5.6.1** - Russian history **5.6.3** - Archaeology	3 -	- -	- -	3 -	- -	- -	- -
24.2.288.07 (D 212.038.19)	**1.4.2** - Analytical chemistry **1.4.3** - Organic chemistry **1.4.15** - Solid state chemistry	2 2 1	- 1 -	- 1 -	2 - 1	- - -	- - -	- - -
D 212.038.07 (Period of validity of the dissertation board until 16.10.2022)	**10.02.01** - Russian language **10.02.19 -** Linguistic theory	2 2	- 1	- -	2 1	- -	- -	- -
D 212.038.14 (Period of validity of the dissertation board until 16.10.2022)	**10.01.01** - Russian literature **10.01.03** - International literature (literature of the countries of Germanic and Romance language families)	3 3	- -	- -	3 3	- -	- -	- -
D 212.038.15 (Period of validity of the dissertation board until 16.10.2022)	**08.00.01** - Economic theory **08.00.05** - Economics and national economy management (by field and sphere of activity, including labour economics, regional economics)	- 7	- 3	- 2	- 2	- -	- -	- -

End of table 5.6

Code of the dissertation board	Code of the fields of study of the board	The number of dissertations considered in 2021						
		PhD				DSc		
		Total	university staff	PhD students of VSU (graduation of 2021)	external applicants	Total	university staff	external applicants
D 212.038.16 (Period of validity of the dissertation board until 16.10.2022)	**10.02.04** - Germanic languages	1	1	-	-	1	-	1
	10.02.05 - Romance languages	4	-	-	4	-	-	-
D 212.038.18 (Period of validity of the dissertation board until 16.10.2022)	**10.01.10 -** Journalism	4	1	-	3	-	-	-
D 212.038.20 (Period of validity of the dissertation board until 16.10.2022)	**05.13.17** - Theory of informatics	-	-	-	-	-	-	-
	05.13.18 - Mathematical modelling, numerical methods, and program systems	1	-	-	1	-	-	-
D 212.038.23 (Period of validity of the dissertation board until 16.10.2022)	**08.00.12** - Accounting, statistics	1	1	-	-	1	-	1
99.2.003.03 (D 999.010.03)	**5.8.1.** - General pedagogics, history of pedagogics and education	5	-	1	4	-	-	-
	5.8.7. - Methodology and technology of vocational education	3	-	-	3	-	-	-
	Total	**55**	**11**	**6**	**38**	**5**	**3**	**2**

The training of 3 DSc students in 2021 was conducted in accordance with the specialisations of the dissertation boards of economic specialities: 08.00.01 - Economics theory, 08.00.05 - Economics and national economy management (regional economics), 08.00.12 - Accounting, statistics. Two dissertations were recommended for defence.

In 2021, the dissertation boards of the university, on the instructions of the State Commission for Academic Degrees and Titles, considered documents on the deprivation of a scientific degree. 6 people and 2 dissertations were sent for further review.

The university examined the originality of the text to isolate cases of copying material without reference to the author and/or the source of the citation.

Members of the dissertation boards are required to publish their articles regularly in journals, primarily those included in Web of Science and Scopus, as well as specialised professional databases such as Astrophysics, PubMed, Mathematics, Chemical Abstracts, Springer, Agris, GeoRef, MathSciNet, BioOne, and journals included in the list of Russian peer-reviewed journals recommended by the State Commission for Academic Degrees and Titles.

Due to the approval of new nomenclature of scientific specialities by order of the Ministry of Education and Science No. 118 of February 24, 2021 and changes in the Regulations on the dissertation board, rotation of the dissertation boards is planned in 2022.

5.7. RESEARCH PROJECTS CARRIED OUT AT VSU WITHIN THE FRAMEWORK OF THE GOVERMENT ORDER, FEDERAL TARGET PROGRAMME, RUSSIAN SCIENCE FOUNDATION AND RUSSIAN FOUNDATION FOR BASIC RESEARCH

SCIENTIFIC RESEARCH AS A CORE PART OF THE GOVERNMENT ORDER OF THE MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION (3 PROJECTS)

FZGU-2020-0036 Research project 20028 2020-2024

Basic research of the atomic and electronic structure of multifunctional hybrid nanoheterostructures and new materials to be used in sensor and impulse ultra-wideband radioelectronic systems

Head Researcher - Professor E. P. Domashevskaya, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid State and Nanostructure Physics)

FZGU-2020-0044 Research project 20029 2020-2024

Biochemical and molecular mechanisms of oxidative metabolism in plants as an adaptive response to stress

Head Researcher - Professor A. T. Epryntsev, DSc in Biology (Faculty of Biomedical Sciences, Department of Biochemistry and Cell Physiology)

FZGU-2020-0035 Research project No.20042 2020-2024

Nonlinear problems in physics and mathematics applied in laser physics and hydrodynamics

Head Researcher - Associate Professor M. V. Frolov, DSc in Physics and Mathematics (Faculty of Physics, Department of Theoretical Physics)

DAAD GRANT (GERMAN ACADEMIC EXCHANGE SERVICE) WITHIN THE FRAMEWORK OF GOVERNMENT ORDER OF THE MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION (1 GRANT)

720000F.99.1 Research project No.21016 2021

Synthesis of mesoporous materials based on silicon dioxide with molecular imprints of polyphenols; characteristics of sorption properties of nanostructured sorbents

Head Researcher - Associate Professor S. I. Karpov, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

GRANTS OF THE PRESIDENT OF THE RUSSIAN FEDERATION FOR SUPPORT OF RESEARCH BY YOUNG RUSSIAN SCIENTISTS WITH A DSC DEGREE (2 GRANTS)

MD-1982.2020.4 Research project No.20022 2020-2021

Developing a targeted cysteinum proteases delivery system based on biodegradable polysaccharides modified with vinyl monomers

Head Researcher - Associate Professor M. G. Kholyavka, DSc in Biology (Faculty of Biomedical Sciences, Department of Biophysics and Biotechnology)

MD-5732.2021.1.3 Research project No.21011 2021-2022

Potentiometric multisensor systems based on Nafion membranes and modified carbon nanotubes used to analyse sulphanilamide preparations

Head Researcher - Associate Professor A. V. Parshina, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

GRANTS OF THE PRESIDENT OF THE RUSSIAN FEDERATION FOR THE SUPPORT OF RESEARCH BY YOUNG RUSSIAN SCIENTISTS WITH A PHD DEGREE (5 GRANTS)

MK-254.2020.4 Research project No.20023 2020-2021

The effect of dihydroquinoline derivatives on pyrogenetic mechanisms and oxidative metabolism in rats with cerebral ischemic lesions

Head Researcher - Associate Professor E. D. Krylsky, PhD in Biology (Faculty of Biomedical Sciences, Department of Medical Biochemistry and Microbiology)

MK-3411.2021.1.2 Research project No.21013 2021-2022

Low-threshold limiters of density based on hybrid associates of organic dyes and plasmonic nanoparticles

Head Researcher - Associate Professor T. S. Kondratenko, PhD in Physics and Mathematics (Faculty of Physics, Department of Optics and Spectroscopy)

MK-1177.2021.3 Research project No.21012 2021-2022

Development of express technologies to obtain inulin from promising plant sources

Head Researcher - Associate Professor N. A. Diakova, PhD in Biology (Faculty of Pharmaceutics, Department of Pharmaceutical Chemistry and Pharmaceutical Engineering)

MK-767.2021.1.6 Research project No.21010 2021-2022

Development of techniques for functional efficiency enhancement of ultra-wideband communication systems under challenging noise conditions

Head Researcher - Associate Professor K. D. Titov, PhD in Physics and Mathematics (Faculty of Physics, Department of Radiophysics)

MK-6144.2021.4 Research project No.21014 2021-2022

Acoustical interference holography in randomly heterogeneous, nonstationary hydroacoustic waveguides

Head Researcher - D. Yu. Prosovetsky, PhD in Physics and Mathematics (Communication Studies Centre)

GRANTS OF THE PRESIDENT OF THE RUSSIAN FEDERATION FOR STATE SUPPORT OF LEADING SCIENTIFIC SCHOOLS OF THE RUSSIAN FEDERATION (1 GRANT)

NSH-2613.2020.2 Research project No.20021 2020-2021

Photoprocesses in hybrid nanostructures used in next-generation quantum sensors

Head Researcher - Professor O. V. Ovchinnikov, DSc in Physics and Mathematics (Faculty of Physics, Department of Optics and Spectroscopy)

GRANTS OF THE PRESIDENT OF THE RUSSIAN FEDERATION FOR YOUNG SCIENTISTS AND PHD STUDENTS (4 PROJECTS)

SP-22.2021.4 2021-2022

Development of liposomal dosage forms for the correction of complications of coronavirus infection

Head Researcher - Associate Professor Yu. A. Polkovnikova, PhD in Pharmacy (Faculty of Pharmaceutics, Department of Pharmaceutical Chemistry and Pharmaceutical Engineering)

SP-189.2021.1 2021-2022

Controlled integration of bacterial protein with iron oxide and filamentary silicon nanoparticles based on atomic and electronic structure reconstruction data

Head Researcher - E. V. Parinova, PhD in Physics and Mathematics, Research fellow (joint scientific and educational laboratory “Atomic and Electronic Structure of Functional Materials” of the Voronezh State University and the National Research Center “Kurchatov Institute”)

SP-2802.2021.4 2021-2023

Therapy of Alzheimer’s disease by activation of Nrf2 and mTORC1 signalling pathways during hippocampal damage

Head Researcher - A. P. Gureev, Ph.D in Biology, senior lecture (Faculty of Biomedical Sciences, Department of Genetics, Cytology, and Bioengineering)

SP-2608.2019.4 2019-2021

Potentiometric sensors based on perfluorinated membranes and electrically conductive dopants used to identify anaesthetic and antimicrobial drugs

Head Researcher - T. S. Kolganova, PhD in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

FEDERAL SCIENTIFIC AND TECHNICAL PROGRAMME OF DEVELOPMENT OF SYNCHROTRON AND NEUTRON TECHNIQUES AND RESEARCH INFRASTRUCTURE FOR 2019-2027 (1 PROJECT)

075-15-2021-1351 Research project No.21029 2021-2023

Distributed infrastructure of precision diagnostic methods in the ultra-soft X-ray spectrum of synchrotron radiation for functional materials and nanoscale structures, including nano-, bio-, and hybrid materials, for the benefit of promising technologies and technical systems: from education technologies and fundamental research to practical application

Head Researcher - Associate Professor S. Yu. Turischev, DSc in Physics and Mathematics (Faculty of Physics, Department of General Physics)

RUSSIAN SCIENCE FOUNDATION GRANTS FOR CONDUCTING BASIC RESEARCH AND PILOT STUDIES BY RESEARCH GROUPS (11 GRANTS)

19-11-00146 Research project No.19016 2019-2021

Functional analysis in modern hydrodynamics problems

Head Researcher - Professor V. G. Zvyagin, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Algebra and Topological Analysis Methods)

19-11-00197 Research project No.19013 2019-2021

Linear and nonlinear equations in the spaces of function and their application for problems in physics and technology

Head Researcher - Professor E. M. Semenov, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Geometry and Functional Theory)

19-14-00150 Research project No.19018 2019-2021

Epigenetic and enzymic mechanisms for the regulation of respiratory metabolism and the formation of reactive oxygen and nitrogen intermediates in adaptive responses of the plant cell to stress factors

Head Researcher - Professor A. T. Epryntsev, DSc in Biology (Faculty of Biomedical Sciences, Department of Biochemistry and Cell Physiology)

19-12-00095 Research project No.19015 2019-2021

Studying multiquantum processes with the participation of free and bound atoms, ions, and molecules for infrared physical astronomy

Head Researcher - Associate Professor V. E. Chernov, DSc in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics and Information Technologies)

19-12-00266 Research project No.19017 2019-2021

Managing photostability and quantum efficiency of IR luminescence of silver sulphide colloid quantum dots for applications of quantum sensor studies

Head Researcher - Professor O. V. Ovchinnikov, DSc in Physics and Mathematics (Faculty of Physics, Department of Optics and Spectroscopy)

19-18-00205 Research project No.19020 2019-2021

Poets and poetry in the post-historical era

Head Researcher - Associate Professor A. A. Zhytenev, DSc in Phylology (Faculty of Philology, Department of Humanities and Arts)

20-14-00137 Research project 20026 2020-2022

Genomics and physiology of filamentous colourless sulphur bacteria

Head Researcher - Professor M. Yu. Grabovich, DSc in Biology (Faculty of Biomedical Sciences, Department of Biochemistry and Cell Physiology)

20-17-00172 Research project No. 20025 2020-2022

Urboecodiagnostics of the condition of air in large industrial cities of the Central Black Earth Region: exposure to noise factors, carcinogenic risks, and environmental safety

Head Researcher - Professor S. A. Kurolap, DSc in Geography (Faculty of Geography, Geoecology, and Tourism, Department of Geoecology and Environmental Monitoring)

21-15-00026 Research project No. 21006 2021-2023

Biomimetical composites imitating the characteristics of enamelum and human dental tissue: production and fundamental research of the mechanisms of their integration with native dental tissues on a submicron level

Head Researcher - Professor P. V. Seredin, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid State and Nanostructure Physics)

21-19-00397 Research project No.21008 2021-2023

Fundamental basis for the production of new heterogeneous ion-exchange membranes with dominating electrical convection for high-intensity electrodialysis

Head Researcher - Professor V. I. Vasilieva, DSc in Chemistry (Faculty of Chemistry, Department of Analytical Chemistry)

21-19-00323 Research project No.21007 2021-2023

Development of the methods for synthesis and analysis of ultra-wideband devices for radio location and communication systems using quasi-radio signals

Head Researcher - Professor G. K. Uskov, DSc in Physics and Mathematics (Faculty of Physics, Department of Radiophysics)

RUSSIAN SCIENCE FOUNDATION GRANTS FOR RESEARCH CONDUCTED VIA THE EXISTING WORLD-CLASS RESEARCH INFRASTRUCTURE WITHIN THE PRESIDENTIAL PROGRAMME FOR RESEARCH PROJECTS CONDUCTED BY LEADING SCIENTISTS, INCLUDING YOUNG SCIENTISTS (2 GRANTS)

19-72-20180 Research project No.19014 2019-2022

Compatibility and transformation of functional inorganic nanoparticles with cell cultures in hybrid material produced *in vitro* according to synchrotron studies of the reconstruction of atomic and electronic structure

Head Researcher - Associate Professor S. Yu. Turischev, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid State and Nanostructure Physics)

21-74-20053 Research project No.21005 2021-2024

Cysteine proteases in various microenvironments: biophysical, kinetic, and structural-functional properties of supramolecular complexes

Head Researcher - Associate Professor M. G. Kholyavka, DSc in Biology (Faculty of Biomedical Sciences, Department of Biophysics and Biotechnology)

RUSSIAN SCIENCE FOUNDATION GRANTS FOR RESEARCH CONDUCTED VIA THE EXISTING WORLD-CLASS RESEARCH INFRASTRUCTURE WITHIN THE PRESIDENTIAL PROGRAMME FOR RESEARCH PROJECTS CONDUCTED BY LEADING SCIENTISTS, INCLUDING YOUNG SCIENTISTS (4 GRANTS)

17-72-20105-P Research project No.20030 2017-2022

Developing, obtaining, and studying new ferroelectric and magneto-electric materials with desired functional properties formed by controlled alteration of their nanostructure

Head Researcher - senior research fellow N. G. Popravko, PhD in Physics and Mathematics (Faculty of Physics, Department of Experimental Physics)

18-74-10097-P Research project No.21022 2018-2023

Development of a new generation of blood thinners based on blood coagulation factors Xa and XIa, inhibitors of linear and condensed functionally substituted hydroquinols

Head Researcher - senior research fellow I. V. Ledeneva, PhD in Chemistry (Faculty of Chemistry, Department of Organic Chemistry)

19-72-10007 Research project No.19042 2019-2022

Studying the peculiarities of the formation of low-dimensional semiconductor nanoheterostructures on porous silicon

Head Researcher - senior research fellow A. S. Lenshin, PhD in Physics and Mathematics (Joint Laboratory Physics of Nanoheterostructures and Semiconductor Materials)

21-75-10005 Research project No.21021 2021-2024

Regeneration of dental tissue due to induced epitaxial biomimetic mineralisation

Head Researcher - Associate professor D. L. Goloschapov, PhD in Physics and Mathematics (Faculty of Physics, Department of Solid State and Nanostructure Physics)

RUSSIAN SCIENCE FOUNDATION GRANTS FOR RESEARCH CONDUCTED VIA THE EXISTING WORLD-CLASS RESEARCH INFRASTRUCTURE WITHIN THE PRESIDENTIAL PROGRAMME FOR RESEARCH PROJECTS CONDUCTED BY LEADING SCIENTISTS, INCLUDING YOUNG SCIENTISTS (1 GRANT)

21-71-00038 Research project No.21020 2021-2023

Study of mathematical models describing the motion of non-linear-viscous media

Head Researcher - Associate Professor A. V. Zvyagin, PhD in Physics and Mathematics (Faculty of Mathematics, Department of Algebra and Topological Analysis Methods)

THE RUSSIAN FOUNDATION FOR BASIC RESEARCH GRANTS

GRANTS CARRIED OUT UNDER THE COMPETITION “THE BEST PROJECTS OF FUNDAMENTAL SCIENTIFIC RESEARCH” (COMPETITION “A”) (17 GRANTS)

20-08-00404 Research project No.20017 2020-2022

Nanosize effects of metal-ion exchanger composites during chemical and electroreduction of oxygen and deoxygenation of water: theory and technology

Head Researcher - Professor T. A. Kravchenko, DSc in Chemistry (Faculty of Chemistry, Department of Physical Chemistry)

20-04-00526 Research project No. 20010 2020-2022

The effect of dihydroquinoline derivatives on pyrogenetic mechanisms and oxidative metabolism in rats with toxic liver disease

Head Researcher - Professor T. N. Popova, DSc in Biology (Faculty of Biomedical Sciences, Department of Medical Biochemistry and Microbiology)

20-04-00296 Research project No.20009 2020-2022

The regulatory role of methylation of DNA and RNA in the metabolic transformation of di- and tricarboxylic acids in plant cells during their adaptation to stress

Head Researcher - Professor A. T. Epryntsev, DSc in Biology (Faculty of Biomedical Sciences, Department of Biochemistry and Cell Physiology)

20-03-00901 Research project No.20008 2020-2022

Photostimulation of the response of semiconductor gas sensors based on surface plasmon resonance

Head Researcher - senior research fellow S. V. Ryabtsev, PhD in Physics and Mathematics (Joint Laboratory of Voronezh State University and the Institute of General and Inorganic Chemistry of the Russian Academy of Sciences Electron Structure of Condensed Matter)

20-012-00569 Research project No. 20013 2020-2022

Genre specifics of children's folklore in the Voronezh Region (based on the results of folklore expeditions held by Voronezh State University in the XX-XXI centuries)

Head Researcher - T. F. Pukhova, PhD in Philology (Faculty of Philology, Deparment of Russian Literature of XX-XXI Centuries, Theory of Literature, and Humanities)

20-012-00013 Research project No. 20014 2020-2022

Differential description of word semantics in the linguistic consciousness of Russian people and issues concerning its lexicography

Head Researcher - Professor I. A. Sternin, DSc in Philology (Faculty of Philology, the Department of General Linguistics and Stylistics)

20-010-00263 Research project No. 20012 2020-2022

Supporting the efficiency of elderly employees as a part of the strategy for the protection of interests of the elderly

Head Researcher - Professor I. B. Durakova, DSc in Economics (Faculty of Economics, Department of Human Resource Management)

20-01-00051 Research project No.20007 2020-2022

Studying the resolvability and the solutions to boundary value problems for non-Newtonian hydrodynamics models by means of nonlinear and multivalued analysis

Head Researcher - Professor V. G. Zvyagin, DSc in Physics and Mathematics (Faculty of Mathematics, Department of Algebra and Topological Analysis Methods)

20-05-00779 Research project No.20011 2020-2022

Comprehensive geoecological diagnostics of household, drinking, and recreational water usage in large urbanised regions

Head Researcher - Professor S. A. Kurolap, DSc in Geography (Faculty of Geography, Geoecology, and Tourism, Department of Geoecology and Environmental Monitoring)

20-05-00119 Research project No.20016 2020-2022

Acoustic interferometry of incoherent non-diffusion fields in oceanographic studies of shallow water areas

Head Researcher - Professor B. G. Kaznelson, DSc in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics and Information Technologies)

19-07-00037 Research project No.19004 2019-2021

Algebraic models of fuzzy production systems for managing distributed knowledge

Head Researcher - Professor S. D. Makhortov, DSc in Physics and Mathematics (Faculty of Computer Sciences, Department of Programming and Information Technologies)

19-05-00660 Research project No.19001 2019-2021

A model for the optimisation of the social and economic environment of large cities

Head Researcher - Associate Professor S. A. Epryntsev, PhD in Geography (Faculty of Geography, Geoecology, and Tourism, Department of Geoecology and Environmental Monitoring)

19-011-00796 Research project No.19002 2019-2021

Deliberateness as the main principle for publicly significant decisions - legal aspects

Head Researcher - Associate Professor V. V. Denisenko, PhD in Law (Faculty of Law, Department of the Theory and History of State and Law)

19-010-00474 Research project No.19005 2019-2021

Sustainable development of economic entities facing “big challenges”

Head Researcher - Professor N. P. Lyubushin, DSc in Economics (Faculty of Economics, Department of Economic Analysis and Audit)

19-01-00732 Research project No.19007 2019-2021

Methods of representation theory for functions, groups and Banach algebra in the spectral analysis of linear functions and linear operators

Head Researcher - Professor A. G. Baskakov, DSc in Physics and Mathematics. (Faculty of Applied Mathematics, Informatics, and Mechanics, Department of System Analysis and Management)

19-02-00159 Research project No.19003 2019-2021

Neoarchean ultra-acidic magmatism of the Kursk region of Eastern Sarmatia: petrology, age, and paleotectonic correlations

Head Researcher - Professor K. A. Savko, DSc in Geology (Faculty of Geology, Department of Mineral Resources and Mineral Management Studies)

19-05-00336 Research project No.19008 2019-2021

A comprehensive 3D geophysical model of the structure and probable environment of the Koromanty division of the central part of the East European Craton

Head Researcher - Associate Professor V. N. Glaznev, DSc in Physics and Mathematics (Faculty of Geology, Department of Geophysics)

BASIC RESEARCH PROJECTS ORGANISED BY THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND THE VORONEZH REGION (1 PROJECT)

19-45-360003 Research project No.20046 2019-2022

Studying the patterns of the formation of ecological risks caused by household, drinking, and recreational water usage within the Don basin in the Voronezh Region

Head Researcher - Professor S. A. Kurolap, DSc in Geography (Faculty of Geography, Geoecology, and Tourism, Department of Geoecology and Environmental Monitoring)

PROJECTS CARRIED OUT BY YOUNG SCIENTISTS AND ORGANISED BY THE RUSSIAN FUND FOR BASIC RESEARCH AND THE FOUNDATION SUPPORTING R&D PROJECTS BY STUDENTS, PHD STUDENTS, AND YOUNG SCIENTISTS “NATIONAL INTELLECTUAL DEVELOPMENT” (EUREKA! IDEA) (1 PROJECT)

20-33-80017 Research project No.20001 2020-2021

Study of new corrosion inhibitors for steel based on 3-alkyl-5-amino-1H-1,2,4triazoles, obtained in several ways including from oils processing waste

Head Researcher - senior researcher A. A. Kruzhilin (Faculty of Biomedical Sciences, Department of Biochemistry and Cell Physiology)

INTERDISCIPLINARY FUNDAMENTAL RESEARCH PROJECTS (3 PROJECTS)

19-29-06075 Research project No.19063 2019-2023

Location and identification of low-noise autonomous vehicles by means of hybrid autonomous underwater vehicles using acoustic holography

Head Researcher - Associate Professor S. A. Pereselkov, DSc in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics and Information Technologies)

18-29-11062 Research project No.18053 2018-2022

Synthesis of lithium niobate films for the element base of opto-, acousto-, and microelectronic devices

Head Researcher - Associate Professor E. K. Belonogov, DSc in Physics and Mathematics (Faculty of Chemistry, Department of Materials Science and the Industry of Nanosystems)

18-29-11008 Research project No.18052 2018-2022

Biomimetical composites for regenerative dentistry, imitating the structure hierarchy, and peculiarities of the anisotropy of human dental tissue: the technology for production and fundamental research of the mechanisms of their integration with natural tissue

Head Researcher - Professor P. V. Seredin, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid State and Nanostructure Physics)

BEST BASIC RESEARCH PROJECTS CARRIED OUT BY POSTGRADUATE STUDENTS (14 PROJECTS)

19-38-90326 Research project No.19055 2019-2021

Holographic technique for processing acoustic information in randomly heterogeneous, nonstationary ocean waveguides

Head Researcher - Associate Professor S. A. Pereselkov, DSc in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics and Information Technologies)

19-37-90163 Research project No.19056 2019-2021

Study of the methods of formation of ultra-short impulse signals for radioelectronic and location systems

Head Researcher - Associate Professor G. K. Uskov, DSc in Physics and Mathematics (Faculty of Physics, Department of Radiophysics)

19-37-90161 Research project No.19057 2019-2021

Synthesis and analysis of dielectric structures for enhancing the characteristics of ultra-wideband antennas

Head Researcher - Professor A. M. Bobreshov, DSc in Physics and Mathematics (Faculty of Physics, Department of Radiophysics)

19-35-90021 Research project No.19058 2019-2021

Research and information tools for assessing the degree of differentiation of the social and economic development of the municipal districts of the Voronezh Region

Head Researcher - Associate Professor N. V. Yakovenko, DSc in Geography (Faculty of Geography, Geoecology, and Tourism, Department of Human Geography and Regional Studies)

19-34-90110 Research project No.19059 2019-2021

The effect of the metabolic modulators of fatty acids on the mitochondrial dynamics of ageing mice

Head Researcher - Professor V. N. Popov, DSc in Biology (Faculty of Biomedical Sciences, Department of Genetics, Cytology, and Bioengineering)

19-32-90234 Research project No.19060 2019-2021

Alterations in the optical properties of SiOx films during the crystallisation of silicon nanoclusters by means of pulsed photon annealing

Head Researcher - Professor V. A. Terekhov, DSc in Physics and Mathematics (Faculty of Physics, Department of Solid State and Nanostructure Physics)

19-32-90204 Research project No.19061 2019-2021

Spectroscopic characteristics of Rydberg states of atoms and molecules for the problems of physical astronomy and laser physics

Head Researcher - Associate Professor V. E. Chernov, DSc in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics and Information Technologies)

20-37-90029 Research project No. 20038 2020-2022

The development and study of machine learning methods for diagnostics and medical services for patients with heart diseases

Head Researcher - Associate Professor I. L. Kashirina, DSc in Technical Sciences (Faculty of Applied Mathematics, Informatics and Mechanics, Department of Mathematical Methods of Operations Research)

20-35-90079 Research project No.20037 2020-2022

Developing a theoretical basis for the technology for the recovery of gold nanoparticles from high-carbonaceous shale ores

Head Researcher - Professor V. M. Nenakhov, DSc in Geology (Faculty of Geology, Department of General Geology and Geodynamics)

20-35-90024 Research project No.20040 2020-2022

Geoecological assessment of the state of the air basin and contamination of soil with heavy metals, and an analysis of risks for the health of the population in large steel production centres (based on the city of Lipetsk)

Head Researcher - Professor S. A. Kurolap, DSc in Geography (Faculty of Geography, Geoecology, and Tourism, Department of Geoecology and Environmental Monitoring)

20-33-90238 Research project No.20035 2020-2022

Plotting phase diagrams and the identification of new phases in In - Se and Fe(Mn) - In - Se systems using a new thermal analysis method

Head Researcher - Professor A. Yu. Zavrazhnov, DSc in Chemistry (Faculty of Chemistry, Department of General and Inorganic Chemistry)

20-33-90048 Research project No. 20034 2020-2022

Mechanisms of the formation, structure, and properties of carbon-containing nanocomposites based on nanocrystalline ferrites with a perovskite-like structure

Head Researcher - Professor I. Ya. Mittova, DSc in Chemistry (Faculty of Chemistry, Department of Materials Science and the Industry of Nanosystems)

20-32-90167 Research project No. 20036 2020-2022

Photoprocesses in associates of nanoparticles of titanium dioxide, silver, and silver sulphide used in bacterial coatings

Head Researcher - Professor O. V. Ovchinnikov, DSc in Physics and Mathematics (Faculty of Physics, Department of Optics and Spectroscopy)

20-312-90016 Research project No.20039 2020-2022

Myth making in the early poems by V. Mayakosky (1912-1916)

Head Researcher - Professor T. A. Nikonova, DSc in Philology (Faculty of Philology, Department of Russian Literature of XX-XXI Centuries, the Theory of Literature, and Humanities)

BEST BASIC RESEARCH PROJECTS IN THE FIELD OF SOCIAL AND POLITICAL STUDIES CARRIED OUT BY THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND EXPERT INSTITUTE FOR SOCIAL RESEARCH (1 PROJECT)

21-011-31636 Research project No.21015 2021

Collective public leadership in the context of regional development tasks (cases of the Voronezh and Tambov regions)

Head Researcher - Professor A. V. Glukhova, DSc in Politics (Faculty of History, Department of Sociology and Politology)

BEST BASIC RESEARCH PROJECTS JOINTLY HELD BY THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND GERMAN RESEARCH COMMUNITY (NNIO_A) (1 PROJECT)

21-53-12042 Research project No.21003 2021-2023

Development and study of the atomic and electronic structure of functional Sn/SnOx surfaces for the analysis of proteins with structural damage based on surface-enhanced Raman light scattering

Head Researcher - Associate Professor S. Yu. Turischev, DSc in Physics and Mathematics (Faculty of Physics, Department of Experimental Physics)

BASIC RESEARCH PROJECTS CARRIED OUT BY THE ORGANISATIONS - PARTICIPANTS OF THE EURASIAN ASSOCIATION FOR PROMOTION OF SCIENTIFIC RESEARCH (1 PROJECT)

20-52-81005 Research project No.21004 2020-2023

Dynamics of electronic excitations in associates of quantum dots and plasmonic nanoparticles

Head Researcher - Associate Professor M. S. Smirnov, PhD in Physics and Mathematics (Faculty of Physics, Department of Optics and Spectroscopy)

BASIC RESEARCH PROJECTS CARRIED OUT BY THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND THE BELARUSIAN REPUBLICAN FOUNDATION FOR FUNDAMENTAL RESEARCH (1 PROJECT)

20-55-00010 Research project No. 20024 2020-2022

Transformation regularities of geosphere ecological functions in major metallurgical regions

Head Researcher - Professor I. I. Kosinova, DSc in Geology (Faculty of Geology, Department of Ecological Geology)

BASIC RESEARCH PROJECTS CARRIED OUT BY THE RUSSIAN FOUNDATION FOR BASIC RESEARCH AND THE CZECH SCIENCE FOUNDATION (1 PROJECT)

19-52-26006 Research project No.20006 2020-2022

Spectroscopy of excited, including Rydberg, states of atoms, molecules, and radicals and the study of the atmosphere of exoplanets and stars

Head Researcher - Associate Professor V. E. Chernov, DSc in Physics and Mathematics (Faculty of Physics, Department of Mathematical Physics and Information Technologies)

5.8. CENTRE FOR COLLECTIVE USE OF SCIENTIFIC EQUIPMENT (CCUSE)

The Centre for Collective Use of Scientific Equipment is one of the official research units of the Russian Federation registered on www.ckp-rf.ru website. Its activity is monitored by the Ministry of Science and Higher Education of the Russian Federation.

The Centre for Collective Use of Scientific Equipment of Voronezh State University is a scientific and organisational division housing 35 units of modern scientific and analytical equipment, such as the unique computer-assisted laboratory facilities PCM-500. The centre employs highly qualified researchers who are able to carry out scientific studies and provide services (research, experiments, measurements) to various customers including external agencies (Table 5.7, 5.8)

The scientific project of VSU “Distributed infrastructure of precision diagnostic methods in ultra-soft X-ray spectrum of synchrotron radiation for functional materials and nanoscale structures, including nano-, bio-, and hybrid materials, for the benefit of promising technologies and technical systems: from education technologies and fundamental research to practical application” was recognized as one of the winners of the grant contest in the form of subsidies obtained from the Russian Federation state budgetary resources for the implementation of certain activities within the federal scientific and technical programme of development of synchrotron and neutron techniques and research infrastructure for 2019-2027, approved by the Decree of the Government of the Russian Federation. VSU received state funding in the amount of 305 million roubles for 2021-2023. Head researcher - Sergei Turistchev, DSc in Physics and Mathematics, Head of the Department of General Physics at the Faculty of Physics. The implementation of this project will significantly improve the research base of the university. As part of the project, a new laboratory of photoemission spectromicroscopy and synchrotron research was created in the Centre for Collective Use of Scientific Equipment of VSU. In the nearest future, the laboratory premises and infrastructure will be prepared to accommodate the Unique modular spectromicroscopic complex in the ultra-soft X-ray region.

CONTACT INFORMATION

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Table 5.7

KEY INFORMATION ABOUT THE ACTIVITIES OF THE CENTRE FOR COLLECTIVE USE OF SCIENTIFIC EQUIPMENT IN 2021

Book values of equipment, million roubles	177
Number of units of equipment valued at over 1 million roubles, units	27
Number of staff members	13
Total number of works (services) carried out by the university with the help of CCUSE equipment, million roubles	19.8
Actual equipment loading, %	84
Actual CCUSE equipment loading on behalf of third parties, %	41
Number of organisations (external agencies)	16

In 2021, CCUSE met key progress indicators developed by the Ministry of Education of the Russian Federation.

MOST VALUABLE EQUIPMENT OF CCUSE VSU

Zeiss LIBRA 120 transmission electron microscope

PANalytica Empyrean BV X-ray diffractometer

Bruker S8 Tiger X-ray diffractometer

Table 5.8

MOST IMPORTANT EQUIPMENT OF CCUSE VSU AS OF 2021

Name of equipment	Manufacturing company	Country of manufacture	Application, specifications
Thermo ARL X'TRA powder X-ray diffraction system	Thermo Fisher Scientifics	Switzerland	Structural and phase analysis of crystalline materials. in situ study in a vacuum chamber at up to 1,000°C
JSM-6380LV Series scanning electron microscope	Jeol Ltd.	Japan	Study of surface morphology within the range of 150,000x magnification. Microanalysis of the elemental composition, including mapping
SOLVER P47 scanning probe microscope	NT-MDT	Russia	Study of the surface of solid material in the modes of atomic force microscopy and tunnel probe microscopy. Visualisation of the surface microrelief. Qualitative relief assessment at the spacing up to 180 × 180 μm. Mapping of elements with different electrical conductivity and magnetic properties in the mode of the tunnel microscope
Libra 120 Carl ZeissTransmission electron microscope		Germany	Study of the structure, substructure and phase analysis of solids in volume with magnifications with a resolution of up to 0.2 nm
PANalytical Empyrean X-ray diffractometer		Netherlands	Structural and phase analysis of crystalline materials
Primo Star optical microscope	Carl Zeiss Microscopy	Germany	Microscopy of microbiologic preparations
Multifunctional centrifuge Z 36 HK	Hermle	Germany	Centrifugation of complex biological mixtures
QUANT-Z-ETA-1 atomic absorption spectrometer	OOO *Kortek*	Russia	Quantitative determination of elements in liquid samples of various origin and composition at the level of ng/L
U-2900 double beam spectrophotometer	Hitachi	Japan	Double beam optical system. Spectral range: from 190 to 1100 nm
A system for carrying out materials testing in vacuum and under UV radiation	OOO *Vacuum Systems and Electronic, Anest Iwata*	Russia, Japan	Samples vacuuming up to 10^{-4} Pa. Applying electromagnetic radiation in the ultraviolet spectra
Nikon ECLIPSE Ni-E/Ni-U optical microscope	Nikon	Japan	Upright Hi-End microscope Optical system CFI60 (“endless” optics). Resolution up to 0.2μm
Upright polarized-light microscope Olympus BX51	Olympus	Japan	Optical microscope works in the following modes: light field, dark field, phase contrast, polarized light, fluorescence, and Nomarski DIC (differential interference contrast). Up to 150x magnification range

End of table 5.8

Name of equipment	Manufacturing company	Country of manufacture	Application, specifications
Gas chromatograph - Agilent 7890B/5977A mass spectrometer	Agilent Technologies	USA	Separation of mixtures and mass spectrometry analysis of organic compounds
Agilent 6230 accurate-mass time-of-flight (TOF) LC/MS system	Agilent Technologies	USA	Separation of mixtures and mass spectrometry analysis of organic compounds and the study of organic reactions mechanisms
Milestone MicroSynth Microwave Synthesis System	Milestone	Italy	Controlled synthesis of organic compounds exposed to microwave radiation
PC3004 Vario chemical vacuum station	Vacuubrand	Germany	Creating a controlled vacuum for the synthesis and extraction of organic compounds
SONICATOR Q500 ultrasonic dispergator	QSONICA	USA	Sample preparation. Preparation of suspended solids by ultrasound
Zetasizer Nano ZSP System	Malvern	England	Size characterisation of organic and inorganic nanoparticles within the range of 0.3-10 μm
PT-PC 75840 RMC-Boeckeler rotary ultramicrotome	RMC Boeckeler	USA	Ultramicrotome that performs ultra-thin sectioning for their further study by means of transmission scanning electron microscopy, atomic-force microscopy, scanning probe microscopy, or optical microscopy. The precise feed technology allows to obtain sections from 5 nm to 10 μm
BrukerS8 Tiger X-ray diffractometer		Germany	A system for elemental X-ray fluorescence analysis in such industries as petroleum chemistry, cement production, and the extraction of minerals
Vertex 70 FT-IR spectrometer	Bruker Optik GmbH	Germany	Vertex 70 series FT-IR spectrometer with vacuum optical system enables maximum sensitivity in in near, medium, and far IR range from 15,500 to 350 $cm^{-1}$and eliminates the effects of atmospheric carbon dioxide and water vapour on the quality of the obtained spectra
Shimadzu UV-2550 spectrophotometer	Shimadzu Scientific Instruments	Japan	Double monochromator with wavelength range of 190-900 nm
Shimadzu 2501 spectrophotometer	Shimadzu Scientific Instruments	Japan	Double beam optical system with wavelength range of 190-1100 nm

5.9. VSU INNOVATION FINANCIAL SUPPORT IN 2021

In 2021, the work of VSU's Department of Innovations and Information Policy Management was aimed at collaboration with the university's business partners. As a result of this collaboration the university's infrastructure was enhanced:

- Together with the company RELEX, the lecture hall on the third floor of the main building of the VSU was renovated and equipped with furniture and equipment.
- Together with the IT company DataArt, the lecture hall on the second floor of the main building of the VSU was renovated and furnished.
- The premises of the first floor of the Technopark were renovated.

The total financing of infrastructure development in 2022 is estimated to be over 12 million roubles.

VSU also concluded 2 license agreements and agreements on the cession of intellectual property rights, with total amount of 20 thousand roubles.

Targeted subsidies SIB for the amount 80 thousand roubles. In addition, VSU SIBs employed VSU staff members with total salary fund exceeding 10 million roubles.

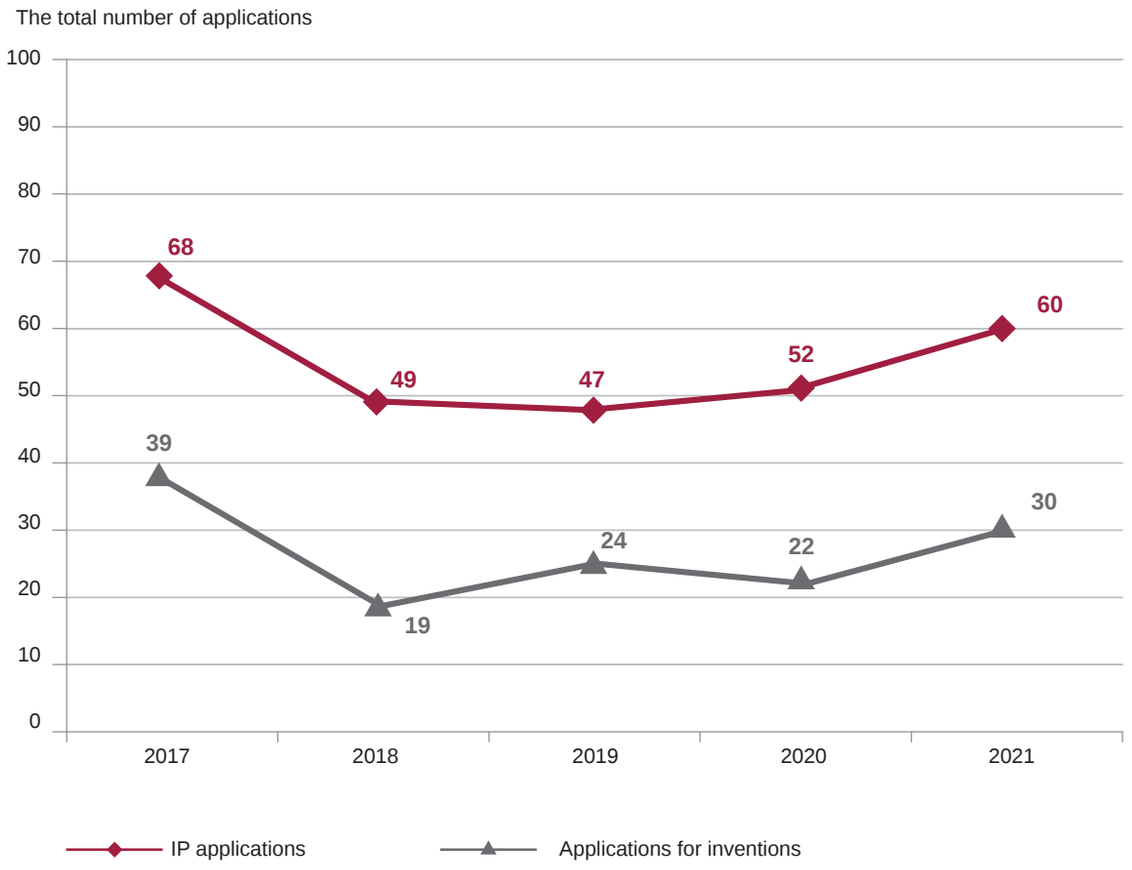
The funding of federal and regional competitions ("U.M.N.I.K.", the Innovation Cup, etc.) amounted to 400 thousand roubles.

5.10. VSU PATENT ACTIVITY IN 2017-2021

In 2021, as part of the work on patent and license activity, VSU academic staff created 60 copyrightable intellectual property items. 28 applications for certificate registration were submitted. The number of invention patents was 30 and the number of utility model patents was 2 (Fig. 5.5).

Figure 5.5

IP APPLICATION (2017-2021)



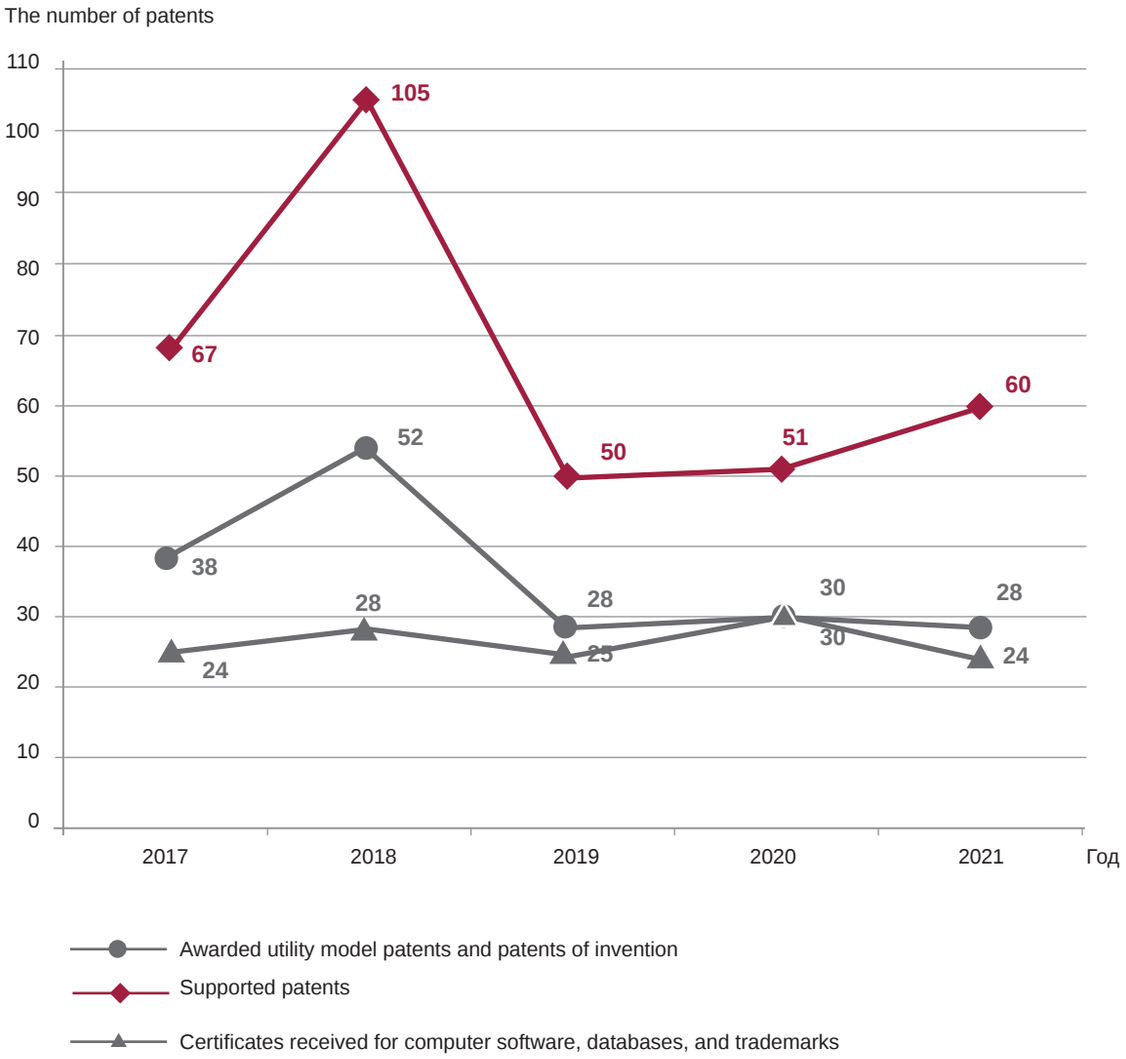
Comparative analysis of the number of intellectual property items created over the past three years indicates an increase in the total number of copyrightable intellectual property items.

In the reporting period, the university obtained 28 invention patents for development in the field of chemical and pharmaceutical industries, botany and biotechnologies, electronics, instrument engineering, and nanotechnologies. The total number of computer programmes and database registration certificates was 24.

Stability in the number of patents awarded over the past three years is due to the preliminary examination of market potential of the suggested copyrightable intellectual property items (Fig. 5.6).

Figure 5.6

VSU PATENT ACTIVITY (2017-2021)



Over 440 thousand roubles were spent on state patent dues and IP applications in 2021.

In 2021, the University supported 60 patents with high commercial potential, which indicates the interest of the University in commercially viable patents.

5.11. IP APPLICATIONS DYNAMICS PER FACULTY

the following science faculties showed the most patent activity: the Faculty of Biomedical Sciences, the Faculty of Computer Sciences, the Faculty of Pharmaceutics, the Faculty of Physics, the Faculty of Chemistry, the Faculty of Applied Mathematics, Informatics, and Mechanics, the Faculty of Geography, Geoecology, and Tourism (Table 5.9).

Table 5.9

IP APPLICATIONS DYNAMICS IN 2017-2021

Faculty	2017	2018	2019	2020	2021
Faculty of Biomedical Sciences	12	12	13	10	11
Faculty of Computer Sciences	9	13	5	4	3
Faculty of Pharmaceutics	7	5	5	5	11
Faculty of Physics	8	1	10	13	15
Faculty of Chemistry	11	4	3	–	14
Faculty of Applied Mathematics, Informatics, and Mechanics	13	12	10	20	6
Faculty of Geography, Geoecology, and Tourism	3	1	–	–	–
Other subdivisions	5	1	1	–	–
Total	68	49	47	52	60

The largest number of IP applications in 2021 was submitted by Faculty of Physics and Faculty of Chemistry.

A comparative analysis of the effectiveness of the structural subdivisions of the university for 2017-2021 indicates a consistently high number of the computer programmes and database certificate submitted for registration by employees of the Faculty of Biomedical Sciences.

In 2021, the Federal Institute of Industrial Property received the largest number of applications for certificate of state registration of a computer program created at the Faculty of Physics.

According to the monitoring conducted since 2010, the Faculty of Applied Mathematics, Informatics, and Mechanics and the Faculty of Computer Sciences showed the highest number of officially certified software products over the entire monitoring period.

5.12. DEVELOPMENT OF INNOVATIVE VENTURES

In 2021, the total revenue of small innovative businesses opened with the help of VSU exceeded 10 million roubles.

Table 5.10

SIBS FUNCTIONING IN 2021

No.	SIB's name	Founded
1	OOO *Akma-Universal*	2010
2	OOO *TeknoKhim*	2010
3	OOO *Institute of corrosion*	2010
4	OOO *Laboratory of Innovations*	2011
5	OOO *Centre for consulting services and innovative technological solutions for geology "Tsitrin"*	2011
6	OOO *NanoImpuls*	2011
7	OOO *Voronezh enterprise of ecological soil monitoring*	2011
8	OOO *Tekhnologii Shmelevodstva*	2011
9	OOO *Innovation Expert Enterprise Ecotechnologies*	2012
10	OOO *RPE Hydrogeocentre - VSU*	2012
11	OOO *PlazmoSil*	2012
12	OOO *Bioint*	2012
13	OOO *Institute of system biotechnologies*	2012
14	OOO *NPO Membranes*	2014
15	OOO *I-Expert Group*	2015
15	OOO *Proftsentr Perspektiva*	2015
17	OOO *Centre for the transfer of technologies in high molecular compounds chemistry*	2016
18	OOO *BFSoft*	2017
19	OOO *A-Systems*	2017
20	OOO *BRENNEN*	2018
21	OOO *I-Technology-Engineering*	2018
22	OOO *BNP SOLUTIONS*	2020

5.13. OVERVIEW OF THE VSU ENGINEERING CENTRE

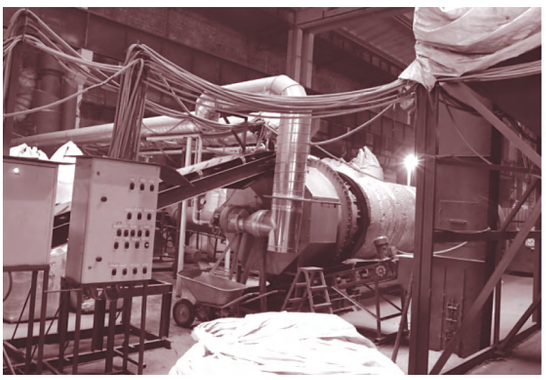
Voronezh State University continues working in the framework of state support of projects for the creation and development of engineering centres based on higher educational institutions subordinate to the Ministry of Education and Science of the Russian Federation.

One of the aims of the project is to provide for an engineering-based introduction of effective technologies for glass sand deposit development with the concurrent extraction of strategic marketable raw materials. Another objective is the development of import-substituting production by means of the research, innovative, engineering, technological, human resources, and information capacities of the centre.

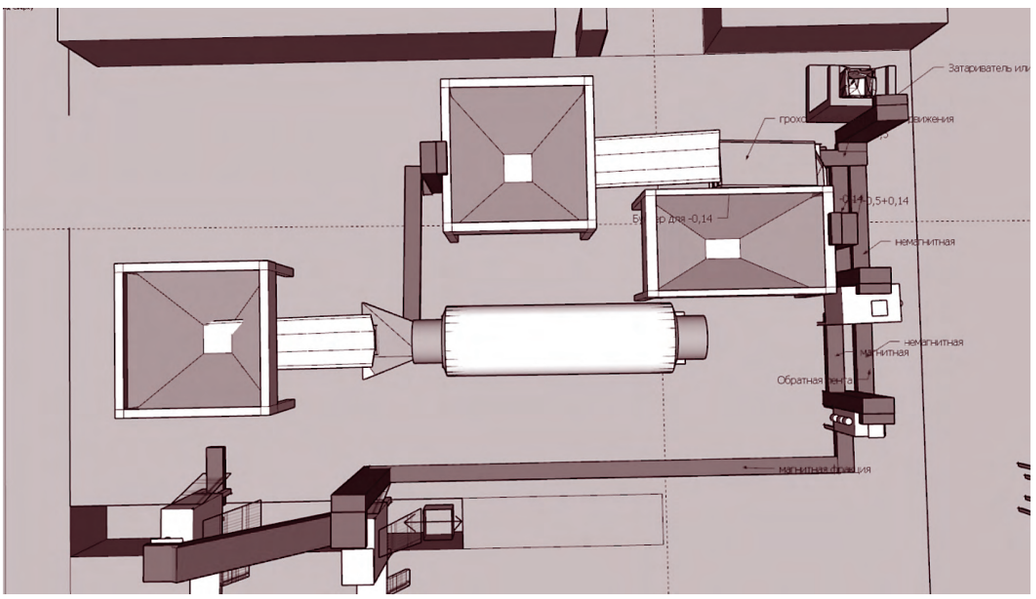
In 2021, the engineering centre I-Technology continued its successful activities and met key progress indicators. Conditions are being developed for cooperation with potential customers and consumers of engineering services and activities. Contracts worth over 26 million roubles were signed within the project.

On the leased territory in the Latnaya industrial settlement of the Voronezh region (OOO PCF Zavod KBI) automated production was carried out. Equipment purchased under a state subsidy within the pilot project to create an engineering centre was installed, and supplemented with automation and means of transportation. Gas was supplied to a high-performance drying complex with the involvement of funds of OOO I-Technology-Engineering. A processing line was commissioned and a technology allowing to develop deposits of the Voronezh region for import-substituting supplies of glass and raw materials for its production with the concurrent extraction of strategic marketable raw materials and the development of import-substituting Russian enrichment facilities was developed. Also, the technology for for the production of titanium, its alloys and zirconium in the region was developed, which allowed the rational use of subsoil for the reduction of the environmental load in the areas of operating mining and processing plants using new technologies for the extraction of precious metals, and strategic marketable raw materials, specifically Ti and Zr.

Ilmenite concentrate (raw material for the manufacture of titanium), obtained in the workshop in work settlement Latnaya



Workshop in the industrial settlement Latnaya



Schematic arrangement of the processing line in the industrial settlement Latnaya, production facility with an area of 1000 m^2

Efforts are being made for the production of high-purity quartz sand for the glass industry of the region and the associated extraction of a heavy fraction - a crude rare-metal collective concentrate (zirconium, rutile, ilmenite, cyanite concentrate) during the processing of waste from the extraction of quartz sand and other common minerals.

5.14. OVERVIEW OF INNOVATION BUSINESS INCUBATOR

VSU's innovation business incubator is a unique platform that joins VSU's SIB administration, representatives of research and expert communities of other universities, as well as specialised departments of Voronezh and the Voronezh region administration. The business incubator is a structural subdivision of VSU and consists of a number of offices and a conference room. Its activities involve all areas of work of the Innovations and Enterprise Management, including creating project teams, preparing applications for regional and federal programmes aimed at the support of innovative projects (Russian Science Foundation, Federal Target Programmes, the Order of the Russian Government No 218 dated 9 April, 2010, Skolkovo Foundation, the Fund for Promotion of Innovations, the Innovation Cup, etc.), management of intellectual property activities (creation, accounting, introduction, and commercialisation), promoting entrepreneurship (detecting promising ideas, creation of projects, start-ups, development and efficient cooperation with small innovative businesses), participation in exhibitions, cooperation with industrial partners and representatives from authorities.

In 2021, the business incubator worked in the following major areas.

1. Provision of information contracting organisations to enable the efficient business of the VSU Business Incubator: contracts with service providers (fire protection service, disinfection and denaturation services, electricity, waste collection, etc.).

2. Promotion of key R&D projects of VSU researchers and small innovation businesses at exhibitions and presentation platforms: Moscow International Inventions and Innovative Technology Salon "Archimedes-2021"; International forum "Army-2021".

   Over 25 key R&D projects by SIBs and VSU researchers were presented at exhibitions and presentation events at various levels. VSU researchers were also awarded various prizes for their projects, including the bronze medal at the Moscow International Inventions and Innovative Technology Salon "Archimedes 2021" and the certificate of participation in the "Army-2021" Forum.

3. Development of bilateral cooperation with the following organisations providing support for the Voronezh region small business and innovation structure development: the State Foundation for Assistance to the Voronezh Region Small Innovative Enterprises, the Department of Industry of the Voronezh region, the Departments of Economic Development, the Chamber of Commerce and Industry of the Voronezh Region.

4. Organisational, consultative, and administrative support of innovative projects by VSU students and staff submitted for the contest held between Voronezh universities "Innovation cup - 2021".

In 2021, the best innovative projects of VSU were selected for the final of the annual contest “Innovation cup”. During the process of preparation each project received individual consultative support. According to the results of the contest, Voronezh State University took first place in the overall competition and received the title of “The best innovative university in the Voronezh region”. In the individual competition, VSU took third places. The winners of the Innovation Cup include:

- M. G. Kholyavka, project “Development of preparations based on plant proteases and polysaccharides for the prevention of respiratory infections, including coronavirus” (3rd place).
- T. S. Kolganova, project “Introduction of a “green” technology for obtaining high-purity L-lysine at agricultural enterprises” (special award).

All the winners were awarded with grants with a total amount of 400,000 roubles.

5. Preparing VSU students for participation in the Youth Scientific and Innovation Competition (“U.M.N.I.K.”).

   Over 60 VSU students have become the winners of “U.M.N.I.K.” from 2009 to 2021. In 2021, the winners have not yet been determined as of the date of the report. The Foundation will provide information at a later date.

6. Monitoring and support of VSU’s SIBs activities.

   In 2021, the Innovative Business Incubator held a series of meetings in order to discuss the ways to enhance the interaction between the university and the SIBs. A comprehensive analysis of the performance of SIBs was carried out, and a number of legal and formal issues were settled. Several SIB projects received full-scale support from the Fund for the Promotion of Innovations, and subsidies from the regional budget were provided to partly compensate for the expenditures on the development and introduction of innovative technologies and research and development projects aimed at the implementation of investment projects (decree of the Government of the Voronezh Region No. 656 dated 15 July 2020). Targeted subsidies - about 80 thousand roubles. In addition, VSU SIBs employed VSU staff members with the total salary fund exceeding 10 million roubles.

7. Two tenancy contracts for offices were signed with VSU SIBs. Two lease applications were submitted to the Ministry of Science and Higher Education for approval of new lease agreements.

8. A new version of the Atlas of VSU’s Innovative Projects 2021 has been created, supplemented by new developments.

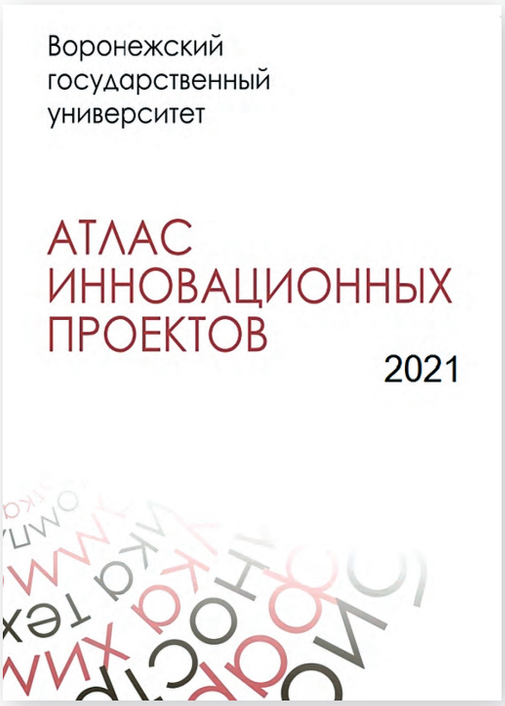
9. In 2021, work to improve the efficiency of management of intellectual property activities (accounting and the procedure for including the intellectual property on the university’s books) continued.

5.15. VSU R&D PROJECT DATABASE

In 2021, to enhance the efficiency of events aimed at fulfilling VSU's innovative potential, VSU Atlas of Innovative Projects was updated and supplemented (Fig. 5.7).

Figure 5.7

COVER OF THE ATLAS OF VSU'S INNOVATIVE PROJECTS



The Atlas is presented in two forms:

- an electronic version published on the university's official website: https://www.vsu.ru/ru/university/docs/news/atlas.pdf;
- an illustrated printed brochure.

5.16. VSU ALUMNI ASSOCIATION

The VSU Alumni Association was founded in December 2012 in order to maintain contacts with the university graduates, help graduates to stay in touch with each other, and involve them in joint projects.

The main activities of the VSU Alumni Association in 2021.

- The VSU Alumni Association was selected as one of the winners in the contest for grants of the President of the Russian Federation aimed at the development of youth projects the implementation of which covers all areas of activities provided for in clause 31.1 of the Federal law No. 7-FZ “On Non-Commercial Organisations” dated 12 January 1996. According to the results of the competition, the innovation preaccelerator Innovation League became the winner for the first time. The aim of the Innovation League is to develop competencies for innovative projects in grade 8-11 pupils of schools in the Voronezh Region. Graduates of the Innovation League can continue working on their innovative projects when they enrol at VSU. Over the five years of existence of the Innovation League it has trained about 800 schoolchildren. 80% of those who developed their projects while participating in the Innovation League, enrolled in VSU.

- A diploma of the Administration of the President of the Russian Federation on the inclusion of the Federal Student Tournament of Three Sciences of VSU Alumni Association in the top 100 of the best projects supported by the Presidential Grants Foundation in 2018, was received.

- Donations amounting to more than 150 thousand roubles were collected. The collected funds are aimed at promoting activities in the development of student self-government at VSU and provision of funds for the participation of the Voronezh team Gryffindor in the Siberian tournament of young physicists. The Gryffindor team, led by a VSU graduate was awarded with a first degree diploma at the tournament and presented the regional tournament at a high level.

The main objectives of the Association for 2022 are:

- Updating and supplementing the database of graduates of various years.

- Creation of a mobile application for communication of VSU graduates and informing about events held at the university.

- Receiving altruistic donations from graduates to implement targeted initiatives.

more information about the activities of the VSU Alumni Association can be found on the website: https://www.alumnivsu.ru/, as well as in the group on the VKontakte social network: https://vk.com/alumni_vsu

5.17. GRADUATES EMPLOYMENT ASSISTANCE ACTIVITIES AND ANALYTICS ON EMPLOYER-SPONSORED STUDENTS

The demand for the university's graduates on the labour market is one of the most significant indicators of the quality of their training. The employment of young specialists has recently been of great importance. To solve this problem, VSU founded the Career Development and Business Partnership Department following the Order of the Rector No.35 dated 27 January 2017. Now it has been renamed the VSU Career Development and Business Partnership Centre (CDBPC) and it assists in the employment of VSU graduates. In order to improve the university's efficiency, the CDBPC collaborates with business partners and regional authorities on the implementation of various regional projects and programmes, attraction of partners, fund raising for the VSU Endowment Fund, and graduate and student employment.

The mission of CDBPC:

- The formation of motivation among students and VSU graduates for independent planning and building a career.
- Prompt assistance to graduates in positioning in the modern labour market, maximum assistance in their professional development.

The priority tasks for the VSU Career Development Centre are:

- Online and offline consultations for students and graduates.
- Work with the job bank of employers - VSU's partner companies.
- Development and implementation of personal development for students.
- Direct and indirect partnership with VSU's partner companies.
- Organisation of all types of career events.

Over the past year (2021), in total 128 events were held by the division:

- Introductory meetings with major employers: 24
- Excursions to partner enterprises: 2
- Lectures by experts from leading companies in the Chernozem region: 26
- Both online and offline open days with the participation of HR representatives of companies: 6
- Webinars/master classes/career consultations: 14
- Conferences/hackathons/intensive programs: 18
- Competitions/case championships: 28
- Leadership programs/schools: 10.

According to an analysis of VSU graduate employment, the share of employed VSU graduates was distributed by the level of education in the following way: bachelor's degree - 92% (including 45% of those who continued their studies), specialist's degree - 85% (including 4% of those who continued their studies), master's degree - 88% (including 9% of those who continued their studies); 95% of graduates who completed employer-sponsored training were employed in 2021.

According to the analysis, graduate of the Faculty of Applied Mathematics, Informatics, and Mechanics, the Faculty of Computer Sciences and the Faculty of Pharmaceutics are the most demanded among employers, 99% of graduates found a job in the occupation.

Organisational and methodological support of the CDBPC's activities in 2021 included:

- Extending the database of potential employers (agreements with enterprises on student internships, cooperation with enterprises and companies aimed at VSU students and graduates' employment, etc.).
- Providing senior students and graduates with information from the job bank of the regional employment bodies (cooperation with Voronezh Region Employment Department).
- Organisation of events contributing to students and graduates' successful employment (career fairs, career days, excursions to partner enterprises, presentations by employers, round table discussions with employers, etc.).
- Operation of faculty bodies responsible for helping with finding jobs and for contact with students aimed at obtaining information about the jobs of employed graduates and providing unemployed graduates with information from the job bank and employment assistance according to their field of study.

INFORMATION RESOURCES

As of the beginning of 2022, the centre is actively developing its graduate employment assistance system:

- VSU's Centre for Career Development's official VKontakte group is working effectively.
- The digital career environment "Facultetus" is actively used.

In order to enhance the effectiveness of graduate employment and improve communication with the graduates, the following mechanisms and tools of interaction with prospective employers will be introduced in 2022:

- Active use of Facultetus, Stazhirovka.ru, HeadHunter, and Rabota.ru by students, which are the most effective websites used by recruitment agencies.
- The database of potential employers: updating the status of VSU's strategic partners, adding information on new agreements to the register.
- Monitoring of relevant job offers from partners and publishing the information on VSU's information resources.
- Organising and holding events aimed at the creation of an environment for the employment of students and graduates together with employers at the level of the university and the faculties.

Objectives of the CDBPC for 2022:

- Expanding the areas of collaboration with potential employers (by opening corporate lecture halls and laboratories, developing academic programmes, offering personal scholarships, holding competitions, creating information stands of the companies).
- Increasing control over the employment of graduates who have completed employer-sponsored training.
- Creating a relevant graduate database together with the VSU Alumni Association.
- Monitoring and conducting surveys among employers, analysing the labour market and demand for specialists who completed secondary vocational education programmes.

5.18. TELECOMMUNICATIONS AND INFORMATION SYSTEM DEVELOPMENT AT VSU IN 2021

The communications and information infrastructure of VSU is based on the university's own telecommunication system which connects 10 university buildings, 8 dormitories, the swimming pool, the botanical garden and other facilities into a single information system. The communication nodes in the university have core and distribution layer routers with high port density and a data transfer rate of up to 10 Gbit/s. VSU's wireless network covers 90% of the university's buildings. The wireless network has 200 802.11b/g/n/ac Wi-Fi access points. All students and employees of the university have limitless access to Wi-Fi. The internet network access channel is 2 Gbit/s.

The "brain" of the communications and information infrastructure of VSU is the VSU Data Processing and Storage Centre, which supports most of the crucial information resources of the university, including the integrated education and information system, the automated library system, the electronic document flow system, and other systems used for organisational, managerial, and economic purposes.

A supercomputer with a total capacity of 39 Tflop/s (27 Tflop/s – LinPack) is used for the mathematical modelling of complex processes and objects and high performance computations.

The university owns over 3,000 desktop PCs and laptops, most of which (74%) are used for teaching. VSU classrooms are equipped with multimedia equipment (30%), equipment for broadcasting (4%), and access to the Internet via the university's Wi-Fi (over 80%).

The university is actively developing and employing digital services which are available on the website and through personal accounts of the academic staff and students. The university has its own electronic education and information system based on the LSM Moodle platform. Online lectures and workshops are held by means of the BigBlueButton video-conference system developed using free software. Prospective students can submit their applications and all the necessary documents required to participate in the admission competition remotely using a special service "Enter the university online" or via a personal account on the university's website (https://enrol.vsu.ru/). The data is updated thanks to an automated system of electronic data exchange between the internal information systems of the university.

The university is further improving the digital competencies of the academic staff and administrative and managerial personnel. In the reporting year, over 89% of the academic staff completed further professional training courses.

The university has a special division and a team of employees responsible for the digital transformation which is headed by the Vice-Rector for Research, Innovations, and Digitisation. The total number of managers and IT specialists employed by the university is 82. The team responsible for the digital transformation consists of 34 people.

DEVELOPMENT AND SUPPORT OF THE UNIVERSITY'S WEBSITES

The official website of Voronezh State University (www.vsu.ru) has been the most popular of the university's information resources. Besides the Russian Federation (87%), the geographical distribution of visitors to the website includes over 170 countries, including Ukraine, the USA, the Republic of Belarus, Kazakhstan, and Germany. The total number of visitors in the reporting year exceeded 1.6 million, which is compatible with that of the previous year.

In 2021, over 1,700 informative publications were posted on the website, including news articles (53%) and announcements (12%).

Figure 5.8

VSU OFFICIAL WEBSITE TRAFFIC IN 2021

Annual report for the official VSU website traffic statistics from 01.01.2021 to 01.01.2022

NUMBER OF VIEWS

1,612,156 page views, 57% of the visitors continued looking through the site after viewing the homepage

3,890,280 page views

262,578 document downloads *(pdf, ppt, doc, etc.)*

3 minutes 14 seconds was the average time spent on the website

Figure 5.9

TRAFFIC SOURCE

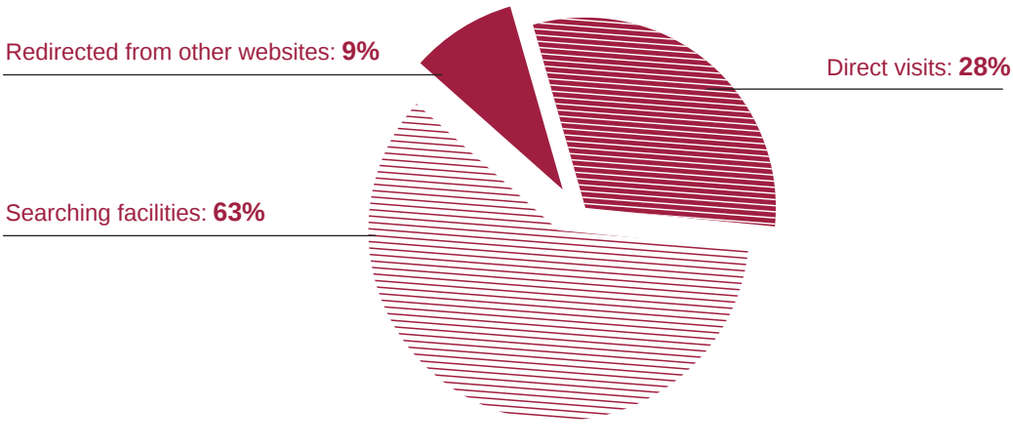


Figure 5.10

VISITS TO THE VSU OFFICIAL WEBSITE BY CONTINENTS

Europe: 1,447,962 visits

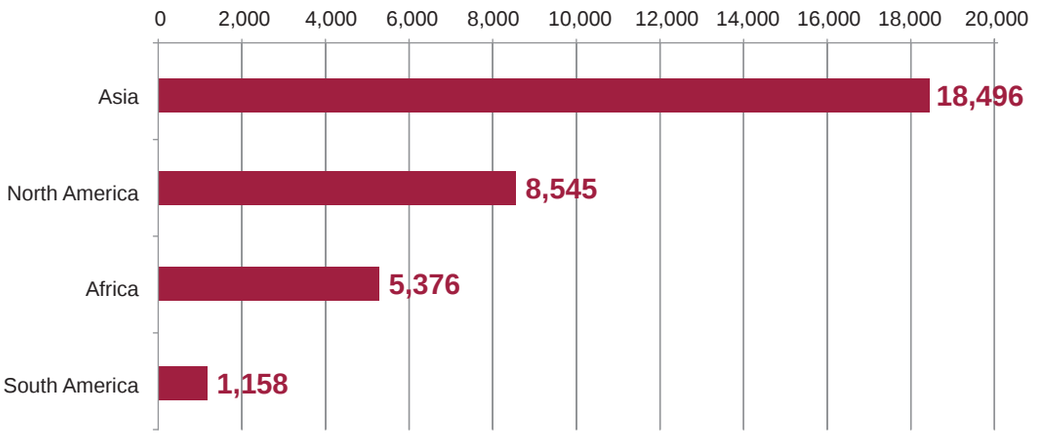


Figure 5.11

VISITS TO THE VSU OFFICIAL WEBSITE BY COUNTRIES

Russia: 1,407,450 visits

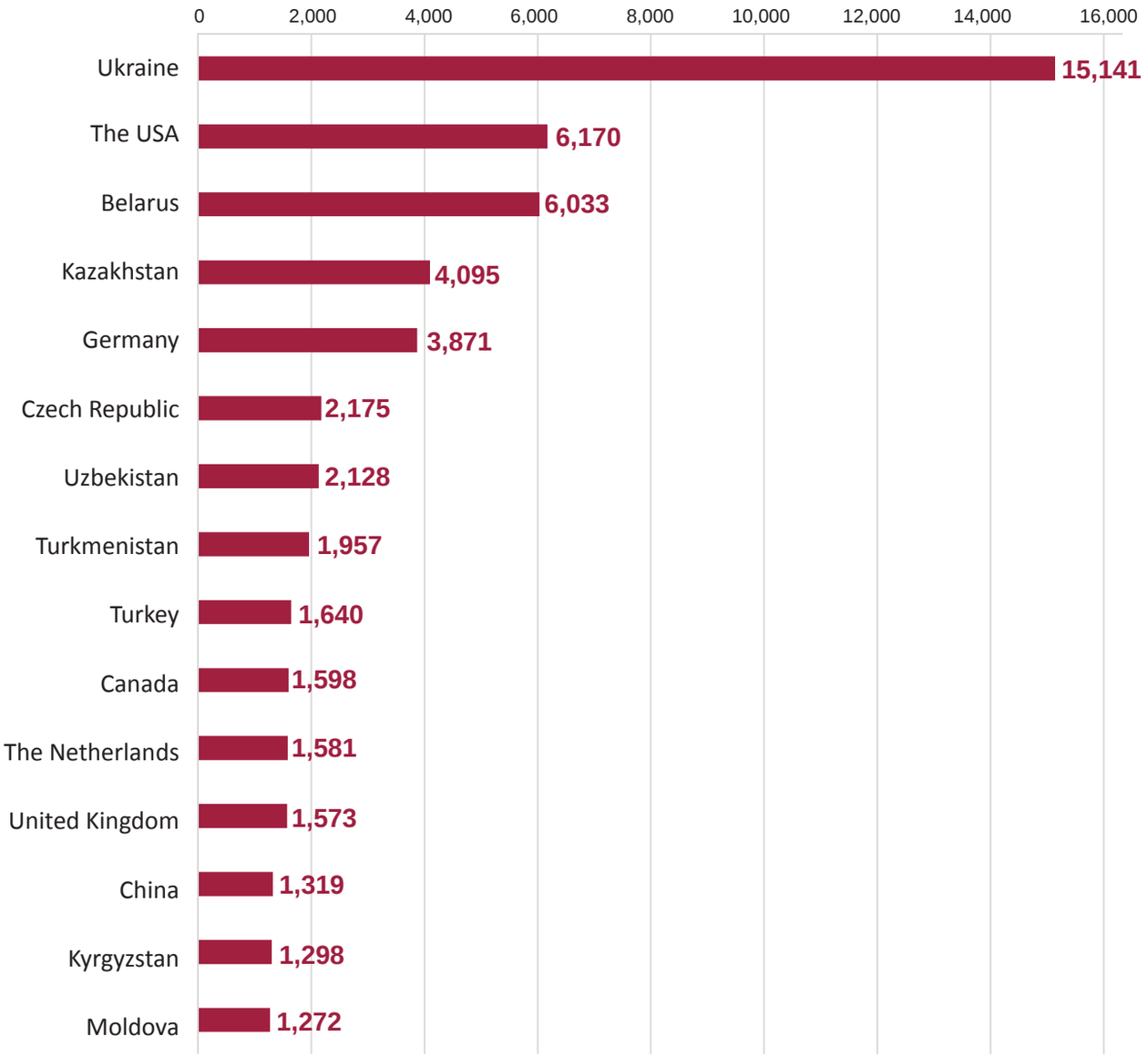


Figure 5.12

TOP VIEWS ON THE INTERNATIONAL VERSIONS OF THE WEBSITE

Russian (2,254,561 visits)

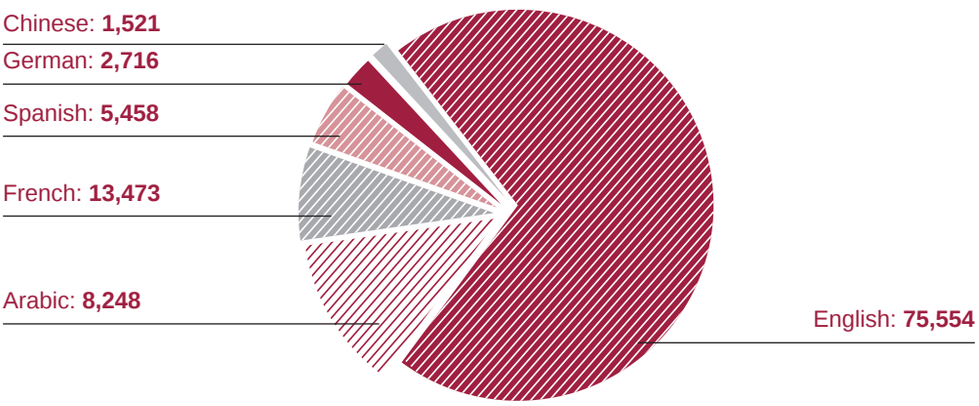


Table 5.11

TOP SECTIONS

Top sections	Visits
University	988,116
Academic Staff	585,145
News	519,079
University Governance	75,477
Announcements	45,845
Anti-corruption	11,750
Calendar	7,268
Ratings	7,026
Publications	5,408

Table 5.12

TOP PAGES

Top pages	Visits
Faculties	122,854
Postgraduate Training Programmes	48,027
Faculty of Economics	39,448
Faculty of Law	33,278
Faculty of Biomedical Sciences	32,994
Faculty of Computer Sciences	29,367
Faculty of International Relations	27,519
Faculty of Romance and Germanic Philology	26,890
Military Training Centre	25,128
Faculty of Journalism	22,476

ENGLISH VERSION OF THE OFFICIAL VSU WEBSITE

The English version of the website is one of the most popular information resources of the university. Over 21.8 thousand visits were recorded over the past year. Geographical distribution of the website includes over 160 countries, including the USA (5%), Morocco (3.3%), India (2.3%), Turkey (2.2%), Egypt (2.2%), and Germany (1.8%). The overwhelming majority (32,7%) accessed the website within the Russian Federation.

Figure 5.13

TRAFFIC ON THE ENGLISH VERSION OF VSU OFFICIAL WEBSITE IN 2021

Annual report for the official VSU website traffic statistics from 01.01.2021 to 01.01.2022

NUMBER OF VIEWS

21,854 visits
50% of the visitors continued looking through the site after viewing the homepage

72,744 page views

2,718 document downloads (pdf, ppt, doc, etc.)

2 minutes 47 seconds was the average time spent on the website

Figure 5.14

TRAFFIC SOURCE ON THE ENGLISH VERSION OF VSU WEBSITE

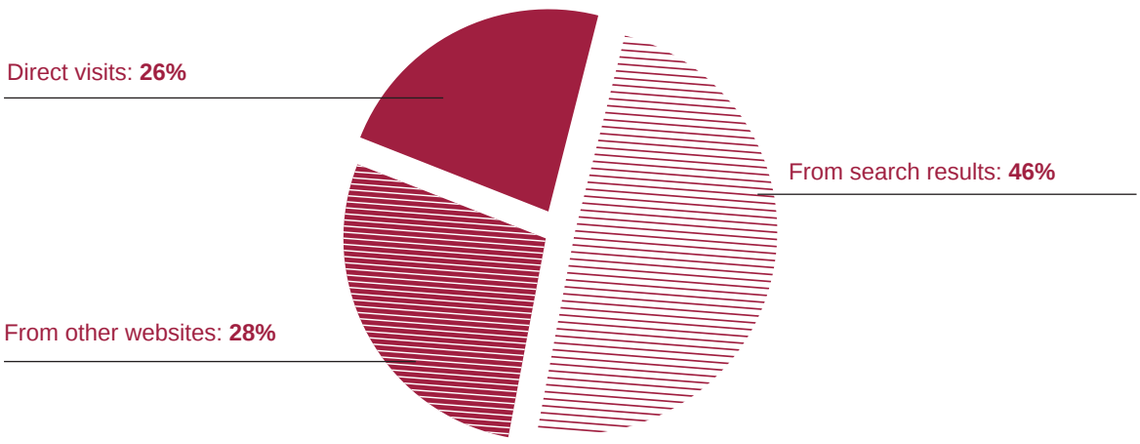


Figure 5.15

VISITS TO THE ENGLISH VERSION OF THE WEBSITE BY CONTINENTS

Europe – 11,848 visits

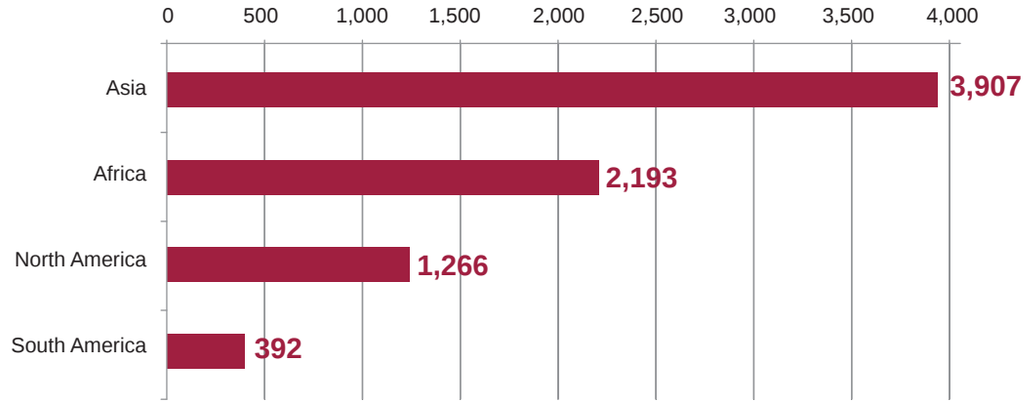


Figure 5.16

VISITS TO THE ENGLISH VERSION OF THE WEBSITE BY COUNTRIES

Russia: 7,140 visits

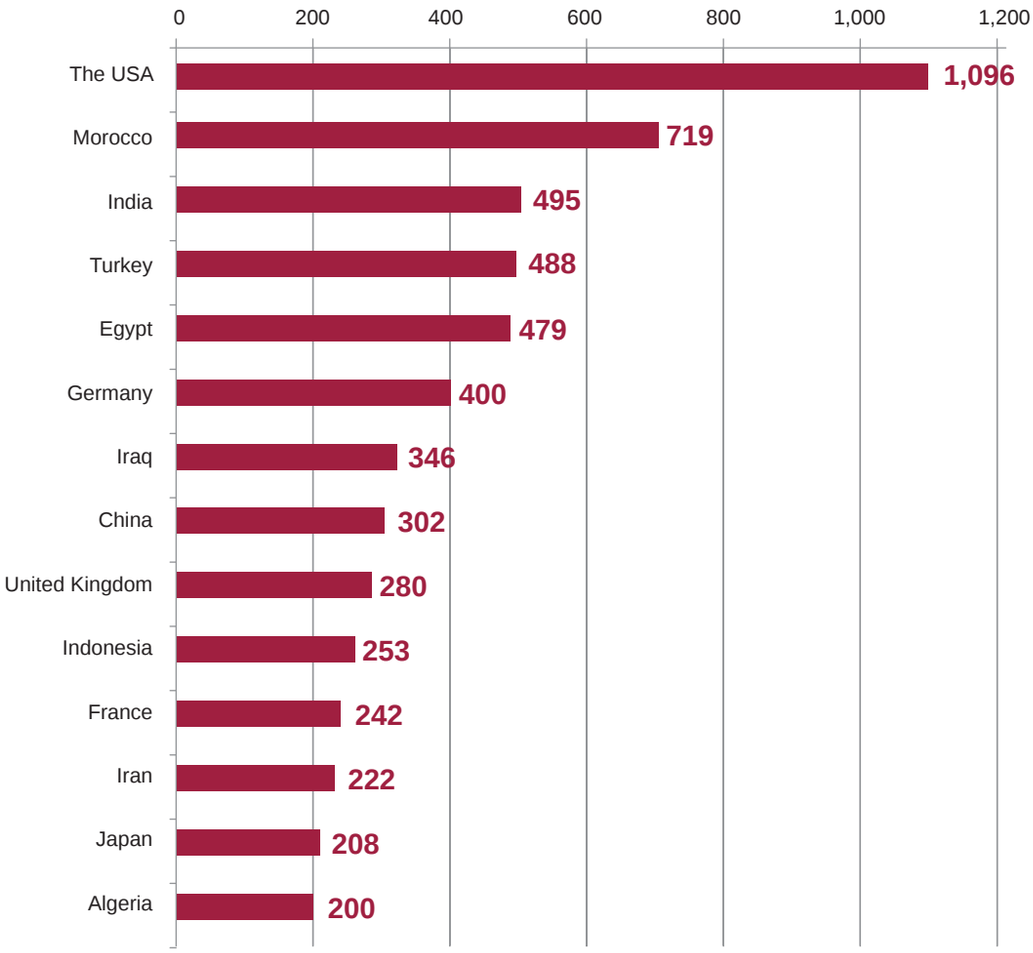


Figure 5.17

TOP FOREIGN LANGUAGES

English: 10,630 visits

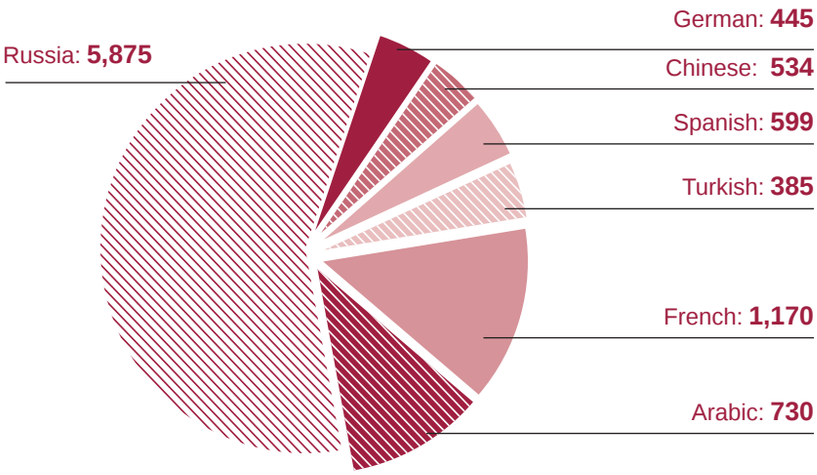


Table 5.13

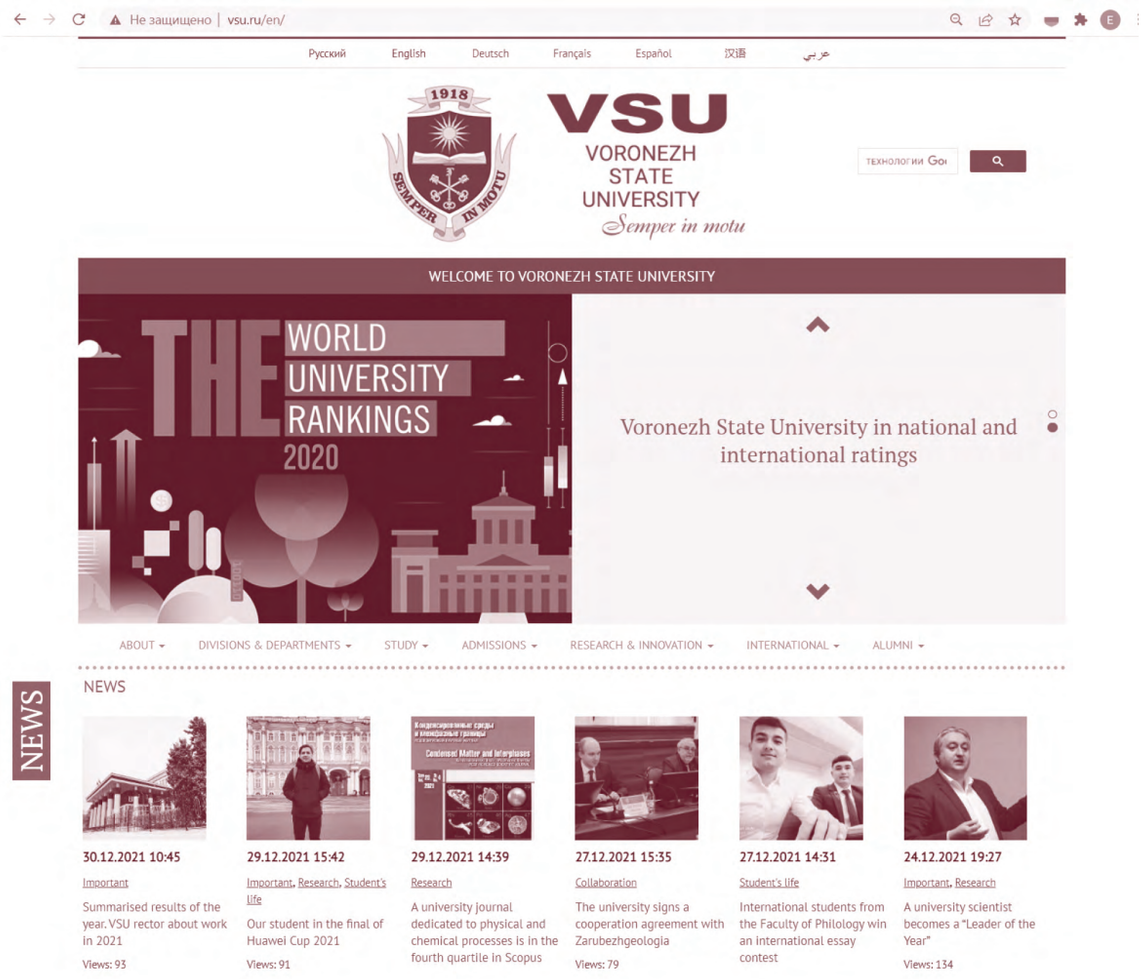
TOP SECTIONS ON THE ENGLISH VERSION OF THE WEBSITE

Top sections	Visits
Studying	24,311
Faculties	11,594
About VSU	9,023
News	6,724
Research	1,646
Cooperation	1,259
Video	55

In the reporting year, a new English version of the VSU website was launched. It meets all the requirements for the English versions of university's websites in terms of the localisation of electronic education resources (figure 5.18). Potential students and partners will find detailed information about Voronezh, the education programmes offered by the university, and the research and international activities of the university. International university entrants can also submit their applications by simply filling in the from directly on the website. In 2021, VSU took 18th place in the ranking of English-language versions of Russian universities' websites.

Figure 5.18

ENGLISH VERSION OF THE VSU WEBSITE



DEVELOPMENT OF THE UNIVERSITY'S TELECOMMUNICATION SYSTEM

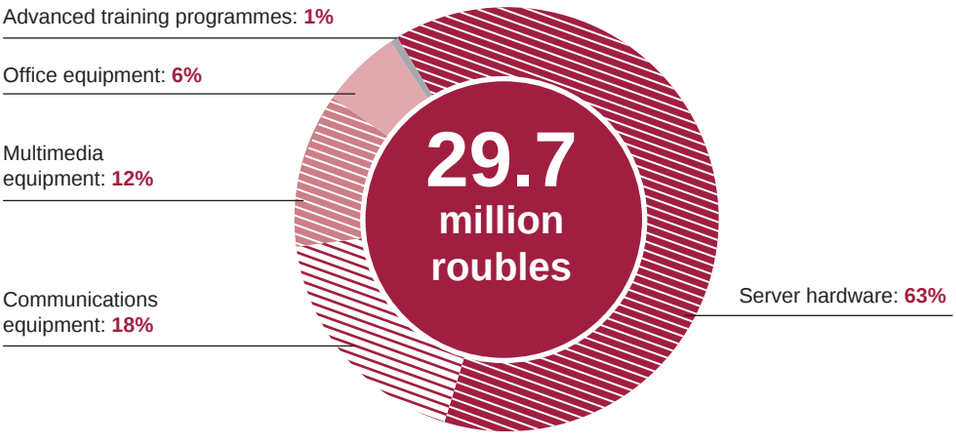
In the reporting year, the activities were aimed at increasing the stability of the network and services and optimising the costs of maintaining the communication infrastructure. As a result, the number of urban telephone network subscriptions was reduced by 14% (with 400 left), and the total number of IP phones used increased by 13% and amounted to over 450.

VSU'S DIGITAL DEVELOPMENT PROGRAMME FOR 2020-2021

The reporting year saw the final stage of the implementation of the two-year Voronezh State University Digital Development Programme. In 2020, the Ministry of Education and Science of the Russian Federation selected 44 universities which were to receive financing for the modernisation of their digital infrastructure. VSU was among those 44 universities. The total amount of financing was 29.7 million roubles, including 29.26 million roubles of federal financing (figure 5.19).

Figure 5.19

SPENDING OF THE FUNDS ALOCATED WITHIN THE PROGRAMME OF DIGITAL DEVELOPMENT OF THE UNIVERSITY



As a result of the programme, the university managed to purchase modern server, communications, and multimedia hardware and software, renovated automated desktops for the members of the admission board, fulfilled the requirement for the integration with the state information system "Modern electronic education environment", and arranged advanced training for the members of the team responsible for the digital transformation of the university.

Figure 5.20

RESULTS OF THE DIGITAL DEVELOPMENT PROGRAMME

MEASURES AIMED AT AUTOMATION OF THE EDUCATION ACTIVITIES

“Enter the university online” special service

In the reporting year, in order to provide for the possibility to submit admission applications remotely, VSU integrated the “Enter the university online” special service with the “Abiturient” information system. The data between the information system and the special service is transferred via a secure network called VipNet. According to the results of the admission campaign, 750 prospective students used the service, 154 of whom were admitted to VSU.

It should be noted that more and more people prefer to file their applications online. In 2021, over 78% of applications were submitted online (figure 5.21).

Figure 5.21

ADMISSION APPLICATIONS SUBMITTED ONLINE

TECHNICAL SUPPORT OF USERS OF VSU’S TELECOMMUNICATION SERVICES

In the reporting year, user support within the university’s telecommunications system was performed by VSU’s Information Technology Administration. Over 12,000 user requests were processed, which is compatible with the results obtained in 2018 (figure 5.22). The portion of successfully solved issues was 95.7%.

Figure 5.22

NUMBER OF PROCESSED USER SUPPORT REQUESTS

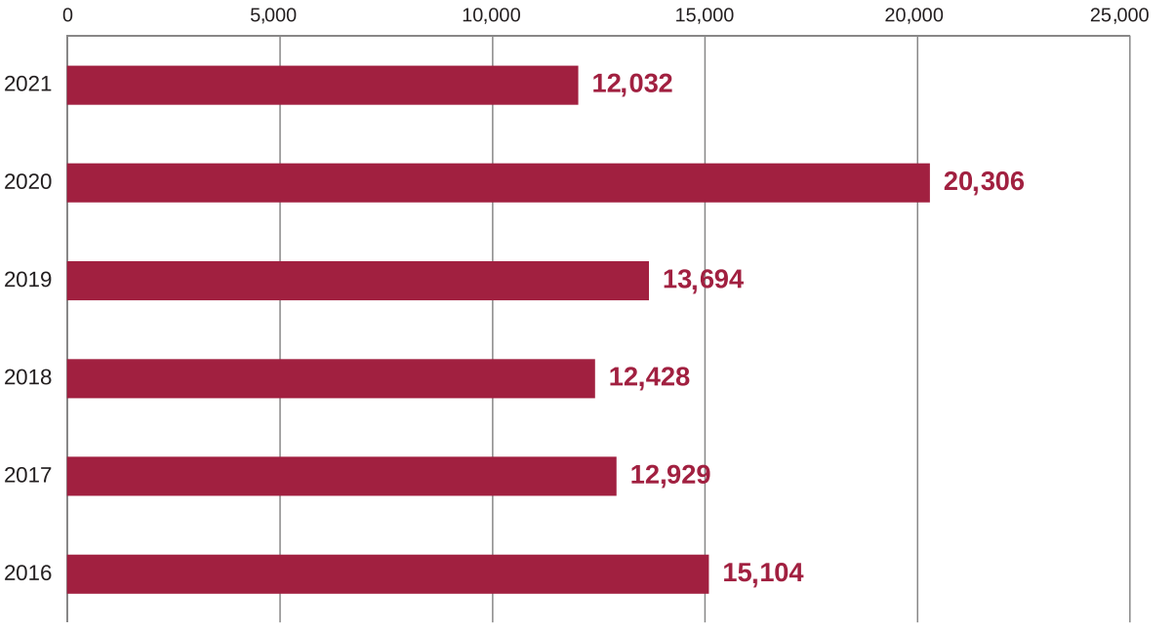
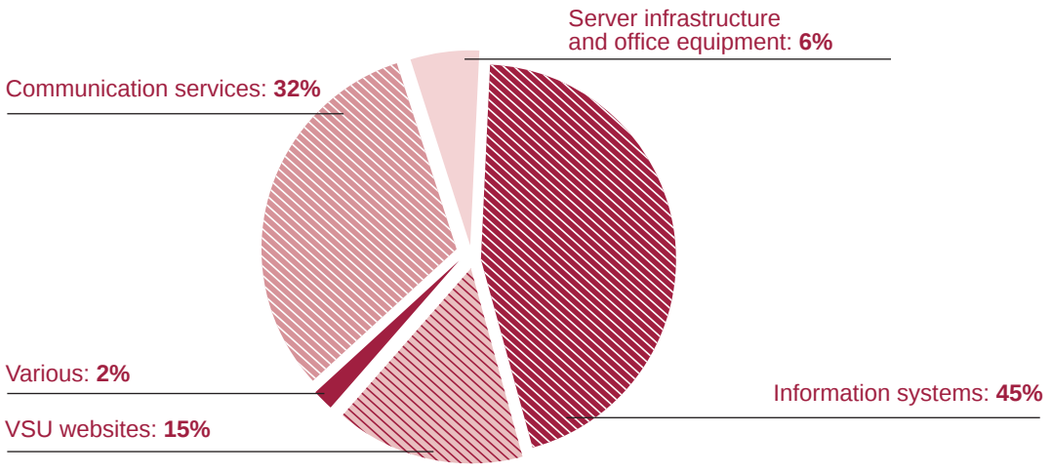


Figure 5.23

DISTRIBUTION OF THE NUMBER OF REQUESTS BY TYPE



In the reporting year, the largest number of requests concerned the maintenance of the information systems of VSU (45%). The vast majority of requests were submitted by the users of the integrated education and information system LMS Moodle. Another large group (32%) included requests regarding the communication services, including the registration of students and staff on the university's wireless network. In third place came requests (6%) related to posting information on VSU websites (figure 5.23).

5.19. RESULTS OF THE INFORMATION POLICY OF VSU IN 2021

The Centre for Information Policy was responsible for the overview of scientific news and other events occurring at the university.

The news articles were published on the university's official website and social network pages, as well as by mass media. In 2021, 223 news stories with a "Science" hashtag were published on the website. They included articles about research projects that had won grant competitions, as well as articles about scientific discoveries, conferences, schools, and research. In 2021, over 1,700 information items were published on the website, including news articles (53%) and announcements (12%). The number of news articles was 886.

The following articles were also published on the website of the Ministry of Education and Science of the Russian Federation:

- Voronezh State University is to train specialists to work with world-class synchrotron equipment
- Voronezh State University will develop ecological awareness in students and will create a "Map of best green practices"
- An exhibition of rare books returned from Germany is held in Voronezh
- Universities successfully integrate their online teaching experience with traditional classrooms.

Besides the website, VSU has other information platforms. They include social networks such as Twitter, Facebook, VKontakte, and Instagram. VSU also has a YouTube channel.

"VSU" VKontakte group and "Abiturient VSU" (https://vk.com/vsumain; https://vk.com/abitur_vsu)

In 2021, the number of followers of the "VSU" group grew by 3,500 and as of 31.12.2021 amounted to 31,525. The audience of the "Abiturient VSU" group is constantly changing. The number of followers grew by over 800 and amounted to 12,600 (31.12.21). In November 2021, the VSU's VKontakte group was included in the ranking of university media activity published by the Ministry of Education and Science of the Russian Federation. VSU took second place out of over 200 for the effectiveness of its social media.

At least five posts are published every day. The main focus is on student life, education, and research. The university also publishes information about the key events and competitions, as well as surveys, announcements, videos, and photos.

VSU's Facebook pages (https://www.facebook.com/vsumain; https://www.facebook.com/groups/2250107335102062)

The total number of followers of the VSU's page is 1,650 active users. The number of likes is 1,550.

Every day, at least two posts are published in the group. News from the official website and the "Abiturient Online" web portal, news about the university's faculties and organisations, previews of events, video reports, competitions, announcements, information about enrolment to VSU's programmes, the activities of student organisations, and the international activities of the university.

The university also administers a public group "VSU (Voronezh State University)", where users can make posts, discuss the news, and ask questions. The number of subscribers is 410.

VSU's official account on Twitter (https://twitter.com/vsumain)

The number of followers is 2,450. In the reporting year, there were 500 posts about the university's scientific achievements, international activity, and the positions of VSU in national and international rankings.

VSU's YouTube channel VSUPRESS (https://www.youtube.com/user/VSUPRESS)

In the reporting year, the videos published on the channel were viewed 238,000 times. The number of subscribers grew by 500 and amounted to 2,200. In 2021, the university launched a new format, live open days online, which demonstrated good engagement when compared to the other videos.

Instagram (https://www.instagram.com/vsumain/)

The number of followers grew from 4,200 to 5,023. In 2021, 93 posts were published. 2 videos published by the university were viewed 9.2 thousand times and liked 10.3 thousand times. The most popular posts were student photos (635 and 644 likes) and a post congratulating them on the beginning of the new academic year (664 likes).

5.20. BRIEF SUMMARY OF THE MAIN ACHIEVEMENTS IN 2021

- A new method for managing the parameters of luminescence and nonlinear optical response in quantum dots of metal sulphides with interfaces decorated with small (5-7 nm) plasmonic nanoparticles of noble metals. The concept will ensure progress in quantum sensor studies for chemical, medical, and information technologies (Head Researcher – Professor O.V. Ovchinnikov).
- A genome-wide phylogenetic analysis of filamentous colourless sulphur bacteria belonging to the genus Thiothrix was performed based on a large sample of previously sequenced and new genomes representing various phylogenetic lines. The analysis was performed in accordance with the current tendencies in systematics and evolution of microorganisms (Head Researcher - Professor M.Yu. Grabovich).
- A new method for the assessment of the combined impact of the noise factor and aerotechnogenic pollution on the quality of the urban environment was developed and experimentally tested. The study determined the patterns of the formation of air pollution sources depending on the weather conditions and the self-purification capacity of the atmosphere. It also identified the high ecological risk areas in Voronezh and Lipetsk occurring due to air and noise pollution (Head Researcher - Professor S.A. Kurolap).
- Ferroelectric and ferromagnetic thin films were obtained for optical and nanoelectronics and spintronics. Such structures can be used to create functional devices for transforming information signals based on a system of multiferroics on a single substrate. The study also provided for the compatibility of the technology of deposition of epitaxial films of LiNbO3 (as the element base for opto- and nanolectronic and spintronic devices) with the basic MOS and bipolar technologies (Head Researcher - Associate Professor E.K. Belonogov).
- In order to produce new membrane materials and optimise the composition and surface morphology of the existing commercial ion-exchange membranes a comprehensive analysis of experimental and theoretical studies of the characteristics of membranes with various concentrations of ion-exchange resin was performed, and the basic connection composition - structure - characteristics was determined for these materials. The study also identified their optimal composition for various electromembrane processes (Head Researcher - Associate Professor V.I. Vasilieva).

- A new theory regarding lyrics was suggested. It implies that literary techniques, parameters of poetic texts and ways of conveying emotions through lyrics tend to change over time. The study determined that modern poetry is a universal cultural institution which analyses the nature of creativity and thus connects verbal art and performance, visual art and digital art, interface studies and the philosophy of the Anthropocene (Head Researcher - Associate Professor A.A. Zhytenev).

- A new method for the identification and visualisation of initial and clinically undetected dental caries was developed. Laser-induced contrast imaging and biomimetic composites simulating enamel properties can be used to detect initial stages of caries by differentiating between emission from healthy tissues, emission from destructed tissues, and emission from areas of bacterial invasion (Head Researcher - Associate Professor P.V. Seredin).

- Distributed infrastructure of precision diagnostic methods in ultra-soft X-ray spectrum of synchrotron radiation for functional materials and nanoscale structures, including nano-, bio-, and hybrid materials, for the benefit of promising technologies and technical systems. Research on the subject was performed resulting in the development of basic infrastructure and educational solutions that would allow reaching the main objectives of the Federal Scientific and Technical Programme for the Development of Synchrotron and Neutron Techniques (Head Researcher - Associate Professor S.Yu. Turischev).

- A new method of phase-stabilized attosecond pulse regeneration was developed based on the measurement of high-harmonic yields. The study developed an adiabatic approach to the description of the quantum state of the electron in an intense laser field and a finite-range potential. Optimal feedback control and the stability problem of thermoviscoelastic fluid flow were also studied (Head Researcher - Associate Professor M.V. Frolov).

- A method of ficin, papain, and bromelain immobilization by means of adsorption, incorporation in gels, and complex formation was developed using the following carriers: 2-(4-acetamido-2-sulfanilamide)-chitosan, chitosan acetate, chitosan sulphate, and graft copolymers Cht-VI and Cht-VI-VDMP. The immobilization mechanism was optimised to enable controlled reversible dissociation (slow release) of the enzyme during antimicrobial therapy (Head Researcher - Associate Professor M.G. Kholyavka).


ВОРОНЕЖСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
ЭКОНОМИЧЕСКИЙ ФАКУЛЬТЕТ


ВОРОНЕЖСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
ЭКОНОМИЧЕСКИЙ ФАКУЛЬТЕТ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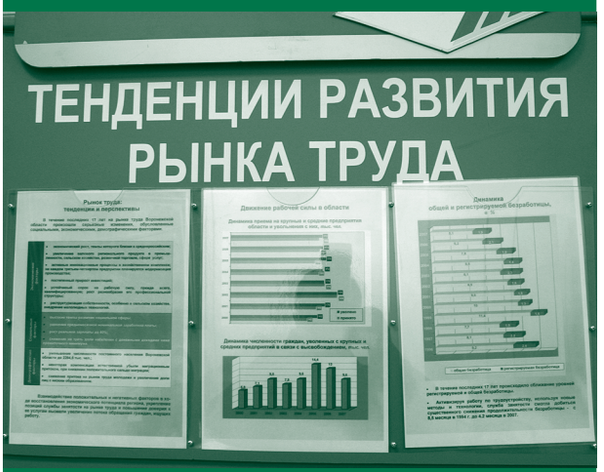
ТЕНДЕНЦИИ РАЗВИТИЯ
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ФИНАНСОВЫЙ МЕНЕДЖМЕНТ
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КРЕДИТОСПОСОБНОСТИ
ОРГАНИЗАЦИЙ
И ГРУППЫ КОМПАНИЙ
МАЛОЕ ПРЕДПРИЯТИЕ
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Бухгалтерский учет
Налогообложение
Документооборот
Финансовое право
Анализ деятельности

ECONOMICS AND CONTRACT SERVICE

ECONOMICS AND CONTRACT SERVICE

L.S. Korobeinikova,
Vice-Rector for Economics and Contract Services

6.1. VSU MAJOR OBJECTIVES IN THE SPHERE OF ECONOMICS AND FINANCE IN 2021

The goal of Voronezh State University in terms of economics and contract services is to achieve the best results of the university's financial policy, in accordance with the current legislation regarding the financial management of the universities subordinate to the Ministry of Science and Higher Education of the Russian Federation.

In order to achieve this goal, the following objectives were set:

- To keep the salaries of academic and research staff at a level of not less than 200% of the average salary in the Voronezh region.
- To continue the tradition of bonuses for all categories of employees.
- To optimise costs in accordance with the university's strategy of finance management, budgeting, and planning, maintaining the current level of financial solvency and financial stability of the university.
- To achieve the optimum total financing of products, works, and services to provide for the university's needs.
- To reduce the number of changes in the provisions of the time-schedule for purchases of goods, works, and services to improve the quality of planning the university's purchasing activities.
- To reduce liabilities to creditors.
- To achieve positive financial results from the university's operating activities.
- To improve the purchasing competence of contractual system specialists in the accounting management of the budget institution and as part of the programme "Purchase Management in the Contractual System".

6.2. REVENUE STRUCTURE BY THE SOURCE OF FINANCING IN 2021

In 2021, the total revenue amounted to **2,874,980.7 thousand roubles**, including:

- Government order subsidies: **1,097,777.6 thousand roubles**
- Targeted subsidies: **443,486.3 thousand roubles**
- Receipts from the provision of services to natural and legal persons on a fee-paying basis: **1,333,716.8 thousand roubles** (Table 6.1, Fig. 6.1).

Table 6.1

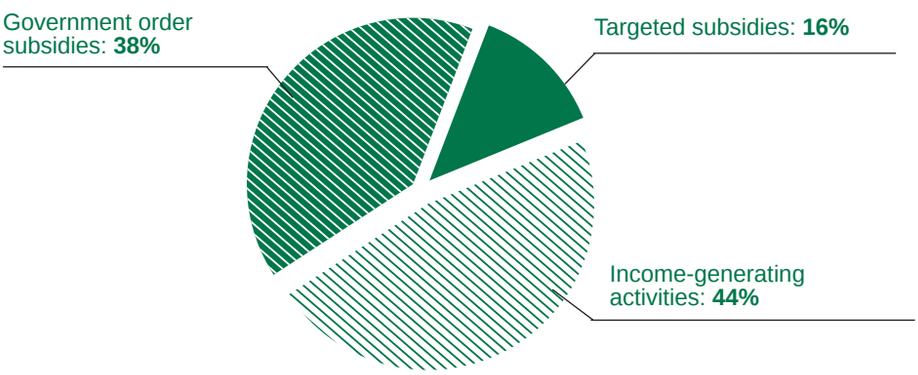
REVENUE STRUCTURE BY THE SOURCE OF FINANCING, THOUSAND ROUBLES

Receipts in 2021		Total
Federal budget	Revenue-generating activities	
1,541,263.9	1,333,716.8	**2,874,980.7**

The percentage of income from the federal budget in 2021 amounted to 56%, 44% was from income-generating activities.

Figure 6.1

REVENUE STRUCTURE BY THE SOURCE OF FINANCING, %



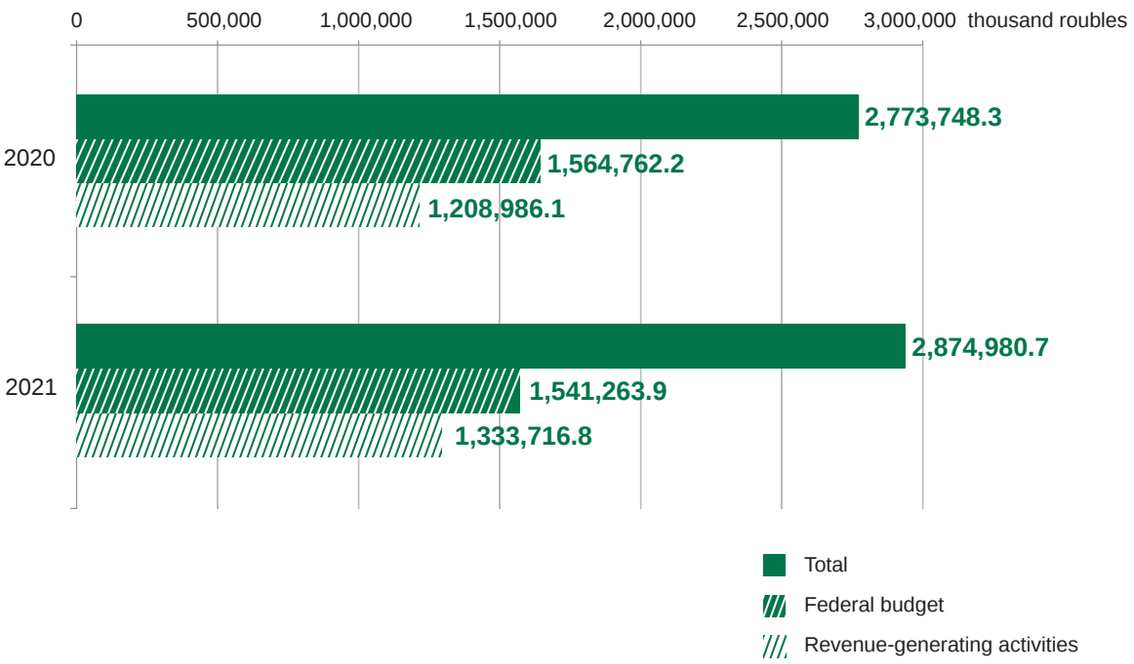
6.3. REVENUE BY THE SOURCE OF FINANCING IN COMPARISON WITH THE PREVIOUS REPORTING PERIOD

Compared to 2020, the total revenue in 2021 increased by 101,232.4 thousand roubles (or by 3.6%):

- Subsidies obtained from the Russian Federation state budgetary resources in 2021 decreased by 23,498.3 thousand roubles,
- In 2021, extra funding from revenue-generating activities increased by 124,730.7 thousand roubles. (Fig. 6.2).

Figure 6.2

REVENUE IN 2021 COMPARED TO 2020



6.4. TOTAL EXPENSES IN 2021 BY AREA OF EXPENDITURE

Table 6.2

TOTAL EXPENSES IN 2021 BY AREA OF EXPENDITURE

Title	Amount, roubles	Share, %
Payments, total	2,991,296,431.66	100.00
Including: Payments to personnel, total	–	–
Including: labour costs	44.60	44.60
Other payments to staff, including reimbursements	0.33	0.33
Other payments, excluding salaries, for the performance of specific authorised acts	0.13	0.13
Contributions to social insurance funds regarding compensation to employees and other payments to employees of institutions	13.05	13.05
Military compensation and compensation for staff members with special ranks	1.00	1.00
Social benefits and other payments, total	–	–
Including: Allowances, reimbursements, and other bursaries, except public standard liabilities	0.01	0.01
Purchase of goods, works, and services to ensure social security of citizens	0.00	0.00
Payment of scholarships and other expenses on social support of students funded by the scholarship fund	12.31	12.31
Taxes, commissions, and other payments, total	–	–
Among them: Corporate property tax and land tax	1.62	1.62
Other taxes (included in the composition of expenses) to the budget system of the Russian Federation, as well as state dues	0.03	0.03
Payment of fines (including administrative), penalties, and other payments	0.03	0.03
Other expenses (excluding expenses for purchase of goods, works, and services)	–	–
Including: Execution of court orders of the Russian Federation and settlement agreements for the compensation of damage caused by the institution's activities	0.02	0.02
Expenses for the purchase of goods, works, and services, total	–	–
Among them: Purchases for research and development work	0.26	0.26
Purchase of goods, works, and services for major repairs of state property	1.75	1.75
Other purchases for goods, works and services, total	21.16	21.16
Purchases of energy resource	3.70	3.70
Payments decreasing the income, total	-19,469,909.60	
Including: Income Taxes	-3,079,096.30	
Value added tax	-16,390,813.30	
Other payments, total	433,177.30	
Including: Average decrease cash balance	433,177.30	

For reference only: balance at the beginning of the current financial year is 964,934,279.82 roubles.

In 2021, the largest percentage in total expenses were payments to personnel, which amounted to 59%, and expenses for the purchase of goods, works, and services, which amounted to 21%.

6.5. ANALYSIS OF THE EFFECTIVENESS OF THE STRUCTURAL SUBDIVISIONS OF THE UNIVERSITY PROVIDING EDUCATIONAL SERVICES

Table 6.3

REVENUE FROM THE EDUCATIONAL SERVICES IN THE 2020/21 ACADEMIC YEAR

Faculty	Government order, rub.	Revenue-generating activities, rub.	Total, rub.	Share, %
Faculty of Law	47,210,922	287,869,798	335,080,720	15.90
Faculty of Economics	34,656,792	230,629,333	265,286,125	12.58
Faculty of Applied Mathematics, Informatics, and Mechanics	129,037,550	57,874,394	186,911,944	8.87
Faculty of Computer Sciences	109,820,022	58,595,770	168,415,792	7.99
Faculty of Romance and Germanic Philology	32,108,056	135,560,437	167,668,493	7.95
Faculty of Physics	123,435,267	9,042,182	132,477,449	6.28
Faculty of Biomedical Sciences	91,678,091.0	33,349,160	125,027,251	5.93
Faculty of Journalism	16,174,599.68	90,110,444	106,285,044	5.04
Faculty of Pharmaceutics	30,629,923	59,449,537	90,079,460	4.27
Faculty of International Relations	11,180,323.02	68,666,499	79,846,822	3.79
Faculty of Mathematics	63,371,567	12,815,506	76,187,073	3.61
Faculty of Geology	62,150,093	8,116,575	70,266,668	3.33
Faculty of Geography, Geoecology, and Tourism	50,128,880	20,109,534	70,238,414	3.33
Faculty of History	26,456,429	39,819,780	66,276,209	3.14
Faculty of Chemistry	60,127,837	4,319,092	64,446,929	3.06
Faculty of Philosophy and Psychology	26,529,527	27,439,693	53,969,220	2.56
Faculty of Philology	14,372,946	35,179,945	49,552,891	2.35
Total	**929,068,834**	**1,178,947,679**	**2,108,016,513**	**100.00**

In 2021, the Faculty of Law and the Faculty of Economics as is traditional remain the leaders in the receipt of funds from the main activities of the university: 15.9% and 12.6% respectively in the total income from educational activities (Table 6.3, Fig. 6.3).

Figure 6.3

INCOME STRUCTURE BY FACULTY IN 2021

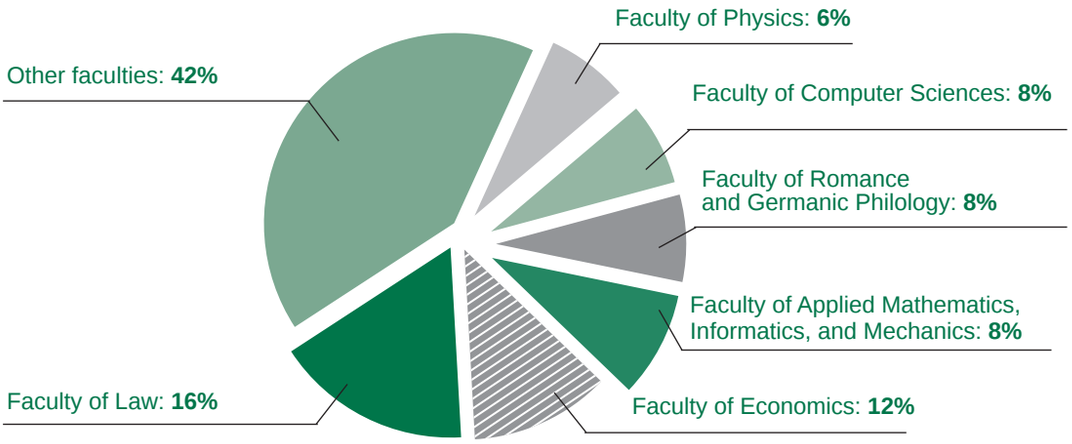


Table 6.4

ANALYSIS OF THE INCOME PLANNING OF FACULTIES OF VSU IN THE 2020/21 ACADEMIC YEAR

Faculties	Planned income	Actual income	The achievement of parameters, %	Absolute deviation, (+/–)
Faculty of Mathematics	4,020,200.00	12,815,506.00	318.78	8,795,306.00
Faculty of Physics	3,954,308.41	9,042,182.00	228.67	5,087,873.59
Faculty of Applied Mathematics, Informatics, and Mechanics	37,372,948.55	57,874,394.00	154.86	20,501,445.45
Faculty of Geology	5,262,978.03	8,116,575.00	154.22	2,853,596.97
Faculty of Pharmaceutics	39,005,206.33	59,449,537.00	152.41	20,444,330.67
Faculty of Computer Sciences	42,945,434.88	58,595,770.00	136.44	15,650,335.12
Faculty of Journalism	69,857,200.00	90,110,444.00	128.99	20,253,244.00
Faculty of Economics	183,150,796.23	230,629,333.00	125.92	47,478,536.77
Faculty of Geography, Geoecology, and Tourism	16,028,175.33	20,109,534.00	125.46	4,081,358.67
Faculty of Philosophy and Psychology	22,964,677.00	27,439,693.00	119.49	4,475,016.00
Faculty of Romance and Germanic Philology	115,177,517.70	135,560,437.00	117.70	20,382,919.30
Faculty of International Relations	59,324,800.00	68,666,499.00	115.75	9,341,699.00
Faculty of History	35,627,712.73	39,819,780.00	111.77	4,192,067.27
Faculty of Law	258,496,802.18	287,869,798.00	111.36	29,372,995.82
Faculty of Biomedical Sciences	31,648,795.55	33,349,160.00	105.37	1,700,364.45
Faculty of Philology	34,438,831.61	35,179,945.00	102.15	741,113.39
Faculty of Chemistry	4,926,531.72	4,319,092.00	87.67	-607,439.72
Total	**964,202,916.25**	**1,178,947,679.00**	**–**	**214,744,762.75**

The fulfilment of the income planning for structural divisions providing education services amounted to 122.00%. Unsatisfactory results were the non-fulfilment of the income plan (Faculty of Chemistry) and overachievement of the plan (Faculty of Mathematics, Faculty of Physics, Faculty of Applied Mathematics, Informatics, and Mechanics, etc.). From the point of view of assessing the financial management of the organisation by the founder, these factors are considered to be negative (Table 6.4).

Table 6.5

ANALYSIS OF THE COST PLANNING OF FACULTIES OF VSU IN THE 2020/21 ACADEMIC YEAR

Faculties	Planned cost	Actual cost	The achievement of parameters, %
Faculty of Romance and Germanic Philology	135,795,557.03	132,269,761.34	97.40
Faculty of Physics	5,531,633.30	5,516,536.12	99.73
Faculty of Law	326,357,205.19	303,806,007.53	93.09
Faculty of History	50,344,583.12	43,480,652.44	86.37
Faculty of Journalism	86,200,124.03	80,972,221.81	93.94
Faculty of International Relations	75,354,264.22	72,389,483.87	96.07
Faculty of Geology	8,464,331.37	7,424,206.54	87.71
Faculty of Economics	260,339,283.90	239,562,189.50	92.02
Faculty of Geography, Geoecology, and Tourism	21,111,493.49	19,781,026.87	93.70
Faculty of Biomedical Sciences	42,447,862.90	32,209,013.42	75.88
Faculty of Pharmaceutics	58,035,153.44	53,729,452.25	92.58
Faculty of Computer Sciences	71,919,499.41	60,930,002.06	84.72
Faculty of Philosophy and Psychology	30,230,750.58	17,967,288.46	59.43
Faculty of Philology	32,050,300.13	39,510,534.37	123.28
Faculty of Mathematics	12,043,003.32	5,807,969.94	48.23
Faculty of Applied Mathematics, Informatics, and Mechanics	62,055,533.19	50,574,434.53	81.50
Faculty of Chemistry	6,873,882.31	6,574,251.34	95.64
Total	**1,285,154,460.93**	**1,172,505,032.39**	**91.23**

The fulfilment of the cost planning of structural divisions providing educational services amounted to 91.23%. Unsatisfactory results were shown by the Faculty of Computer Science, the Faculty of Philosophy and Psychology, the Faculty of Philology, the Faculty of Mathematics, the Faculty of Applied Mathematics, Informatics, and Mechanics, and the Faculty of Chemistry (Table 6.5).

6.6. PURCHASING PERFORMANCE

In 2021, Voronezh State University signed 1,877 contracts (agreements) funded by the subsidies provided from the budgets of budgetary system, grants, funds provided to fulfil state contracts, and funds obtained from other income-generating activities. In the structure of financing of contracts (agreements), the share of grants, funds provided to fulfil state contracts, and funds obtained from individuals and legal entities through other revenue-generating activities increased.

The analysis of the content and structure of contracts (agreements) according to the schedule of the purchase of goods, works, and services in 2021 by the source of funding is presented in Table 6.6.

Table 6.6

ANALYSIS OF THE NUMBER AND STRUCTURE OF THE CONTRACTS SIGNED IN 2020-2021 BY THE SOURCE OF FINANCING

No.	Funding	Volume of signed contracts					Percentage variation, points
		Quantity, pcs		Deviations, pcs. (+, -)	Percentage of the total, %		
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	1313	1553	240	82.68	82.74	0.06
2	Subsidies obtained from the Russian Federation state budget resources	275	324	49	17.32	17.26	-0.06
Total		**1588**	**1877**	**289**	**100**	**100.0**	**–**

In the reporting period, the number of contracts signed increased by 289 pcs, or by 18.2%, as compared to 2020. It should be noted that the growth in the total number of the contracts is accompanied by an increase in their total cost. The university maintains a trend towards the enlargement of the volume of purchases and the competitive selection of suppliers (contractors, agents) through different sources of funding of the purchase of goods, works, and services.

The analysis of the content and structure of contracts (agreements) according to the schedule of the purchase of goods, works, and services in 2021 by the source of funding is presented in Table 6.7.

Table 6.7

ANALYSIS OF THE VALUE AND STRUCTURE OF CONTRACTS (AGREEMENTS) SIGNED IN 2020-2021 BY SOURCE OF FINANCING

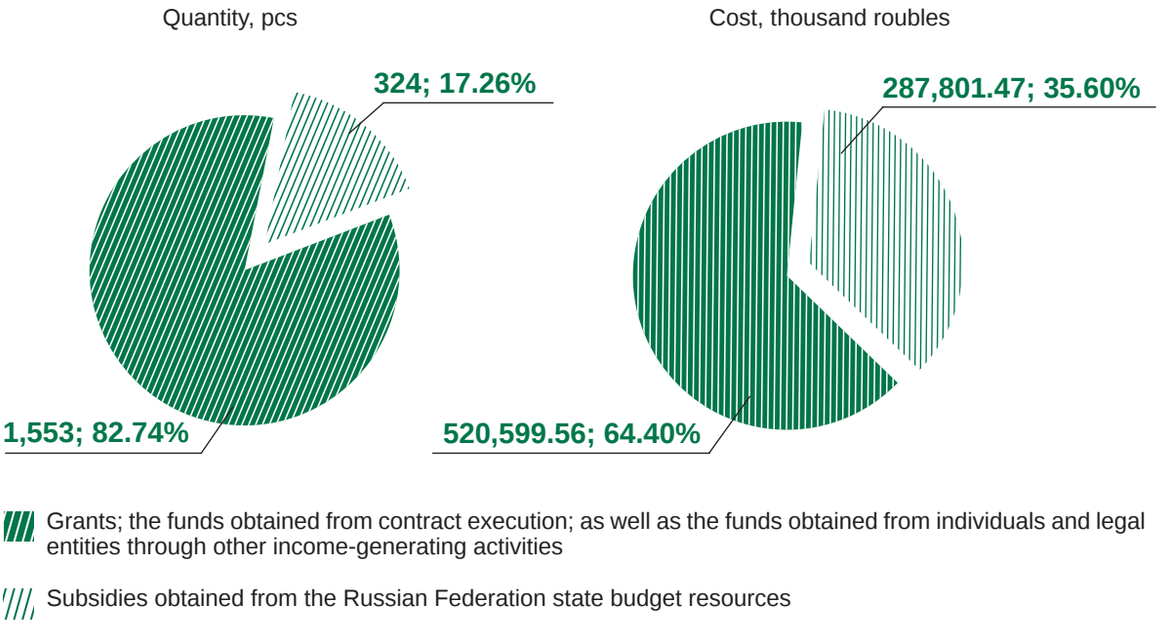
No.	Funding	Volume of signed contracts					
		Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	238,403.5	520,599.56	282,196.06	50.69	64.40	13.71
2	Subsidies obtained from the Russian Federation state budget resources	231,954.53	287,801.47	55,846.94	49.31	35.60	-13.71
Total		**470,358.03**	**808,401.03**	**338,043.00**	**100**	**100.0**	**–**

Particular attention should be paid to the growth in total financing of the purchase of goods, works, and services in 2021, which amounted to 71.86%. The growth is the result of purchases using targeted subsidies and purchases of research equipment through the fulfilment of grants.

In the reporting period, the financing of purchasing activities through subsidies increased by 24.01%, while the share of financing by this source in the total volume of purchase of goods, works, and services in the reporting period decreased by 13.71%. It should be noted that the percentage of financing through grants, through the funds provided to fulfil state contracts, and funds obtained through other revenue-generating activities increased up to 64.4% in the total volume of purchase of goods, works, and services. In 2020, the financing of purchasing activities through different sources of funding was provided almost in equal parts with an insubstantial prevalence of grant funds, funds provided to fulfil contracts, and funds obtained through other revenue-generating activities, which indicated the achievement of equal proportions in the used sources of funding of the purchase of goods, works, and services.

Figure 6.4

VOLUME AND STRUCTURE OF THE CONTRACTS SIGNED IN 2021



The information presented in Fig. 6.4 shows that in 2021 the share of purchases through grants, through the funds obtained from contract execution, as well as the funds obtained from individuals and legal entities through other income-generating activities significantly increased and amounted to 64.39% of the total volume of signed contracts (agreements).

While performing the analysis, it is necessary to pay attention to the method for the selection of suppliers (contractors, agents), which will allow determining the structure of the use of competitive and non-competitive selection.

The data in Table 6.8 show that in the reporting period, the volume of purchases of goods, works, and services carried out using competitive selection of supplier (contractor, agent) increased by 9.5 million roubles. The volume of financing for procurement using subsidies obtained from the Russian Federation state budget resources decreased by almost 34.13 million roubles (11.28%) and amounted to 31.60% of the total volume of financing. It should be noted that purchases through grants, through the funds obtained from contract execution, as well as the funds obtained from other income-generating activities still prevail in case of competitive selection.

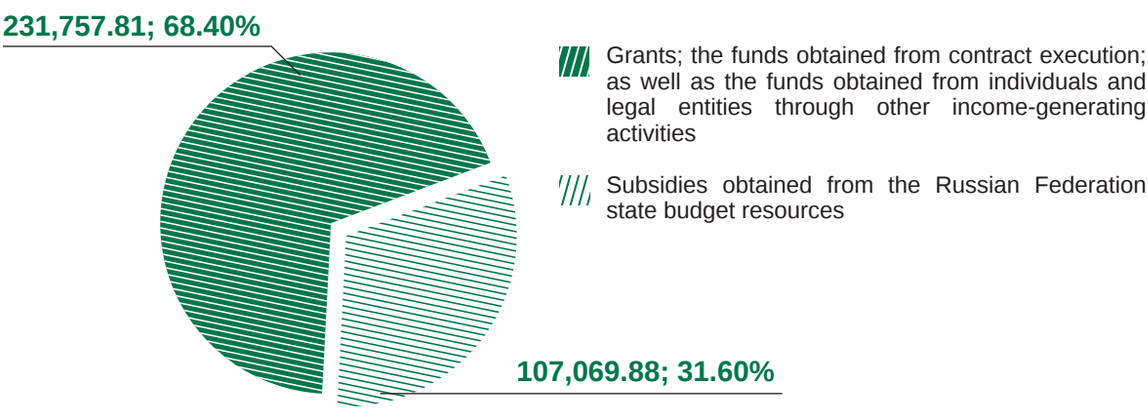
Table 6.8

ANALYSIS OF THE VOLUME AND STRUCTURE OF CONTRACTS SIGNED THROUGH THE COMPETITIVE SELECTION OF SUPPLIERS (CONTRACTORS, AGENTS) IN 2020-2021

No.	Funding	Volume of the contracts signed based on a competitive selection of supplier					Percentage variation, points
		Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	188,121.513	231,757.81	43,636.297	57.12	68.40	11.28
2	Subsidies obtained from the Russian Federation state budget resources	141,200.758	107,069.88	-34,130.878	42.88	31.60	-11.28
Total		**329,322.271**	**338,827.69**	**9,505.419**	**100**	**100.0**	**–**

Figure 6.5

VOLUME AND STRUCTURE OF THE COST OF THE CONTRACTS SIGNED IN 2021 THROUGH THE COMPETITIVE SELECTION OF SUPPLIERS (CONTRACTORS, AGENTS), THOUSAND ROUBLES



The analysis of the content and structure of purchase contracts signed with a single supplier by the source of financing is shown in Table 6.9.

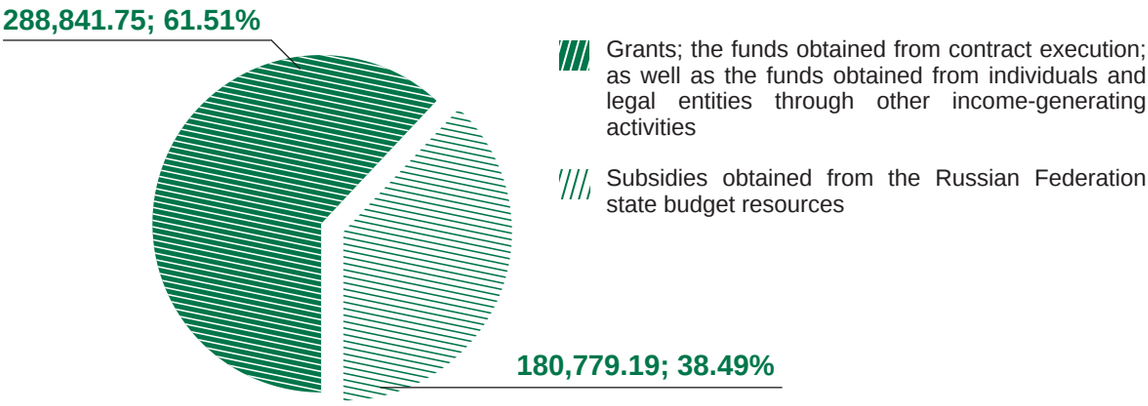
Table 6.9

ANALYSIS OF THE VOLUME AND STRUCTURE OF CONTRACTS SIGNED FROM A SINGLE SUPPLIER (CONTRACTOR, AGENT) IN 2020-2021

No.	Funding	Volume of purchase contracts from a single supplier					Percentage variation, points
		Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	50,281.97	288,841.75	238,559.78	35.65	61.51	22.89
2	Subsidies obtained from the Russian Federation state budget resources	90,753.78	180,779.19	90,025.41	64.35	38.49	-22.89
Total		**141,035.75**	**469,620.94**	**328,585.19**	**100**	**100**	**–**

Figure 6.6

VOLUME OF PURCHASE CONTRACTS IN 2021 FROM A SINGLE SUPPLIER (CONTRACTOR, AGENT), THOUSAND ROUBLES



In 2021, purchases from a single supplier (contractor, agent) were mainly carried out through grants, through the funds obtained from contract execution, and the funds obtained from other income-generating activities, which amounted to 61.51% of the total volume of purchases goods, works, and services from a single supplier. The share of such type of contracts increased by 22.89% as compared to 2020. The share of contracts signed with a single supplier using subsidies obtained from the Russian Federation state budget resources amounted to 38.49%. In the reporting period, the trend of the purchase of goods, works, and services changed, both through the competitive selection of a supplier (contractor, agent) and from a single supplier (contractor, agent). The purchases of goods, works, and services using subsidies obtained from the Russian Federation state budget resources were reduced.

Attention should be paid to the analysis of the number and structure of the contracts signed with a single supplier in the main areas of purchasing activities (Tables 6.10 and 6.11, Fig. 6.7 and 6.8).

Table 6.10

ANALYSIS OF THE CONTENT AND STRUCTURE OF THE CONTRACTS OF PURCHASE FROM A SINGLE SUPPLIER BY THE MAIN AREAS FOR PURCHASING ACTIVITIES

No.	Procurement item	Volume of contracts signed using grants; funds provided to fulfil contract; as well as funds obtained from individuals and legal entities through other revenue-generating activities					
		Quantity, pcs		Absolute difference, pcs. (+, -)	Percentage of the total, %		Percentage variation, points, % (+, -)
		2020	2021		2020	2021	
1	Additions to property, plant, and equipment	86	91	5	7.39	6.34	-1.05
2	Materials	103	111	8	8.85	7.74	-1.11
3	Research projects	35	41	6	3.01	2.86	-0.15
4	Renovations	22	2	-20	1.89	0.14	-1.75
5	Utility services	7	11	4	0.6	0.77	0.17
6	Teaching services provided by non-payroll employees	443	618	175	38.06	43.07	5.01
7	State fees and membership dues	72	80	8	6.18	5.57	-0.61
8	Other expenses	396	481	85	34.02	33.52	-0.50
Total		**1164**	**1435**	**271**	**100**	**100.0**	**–**

Figure 6.7

ANALYSIS OF THE CONTENT AND STRUCTURE OF PURCHASE CONTRACTS IN 2021 FROM A SINGLE SUPPLIER (CONTRACTOR, AGENT), BY THE MAIN ITEMS OF EXPENDITURE, PCS.

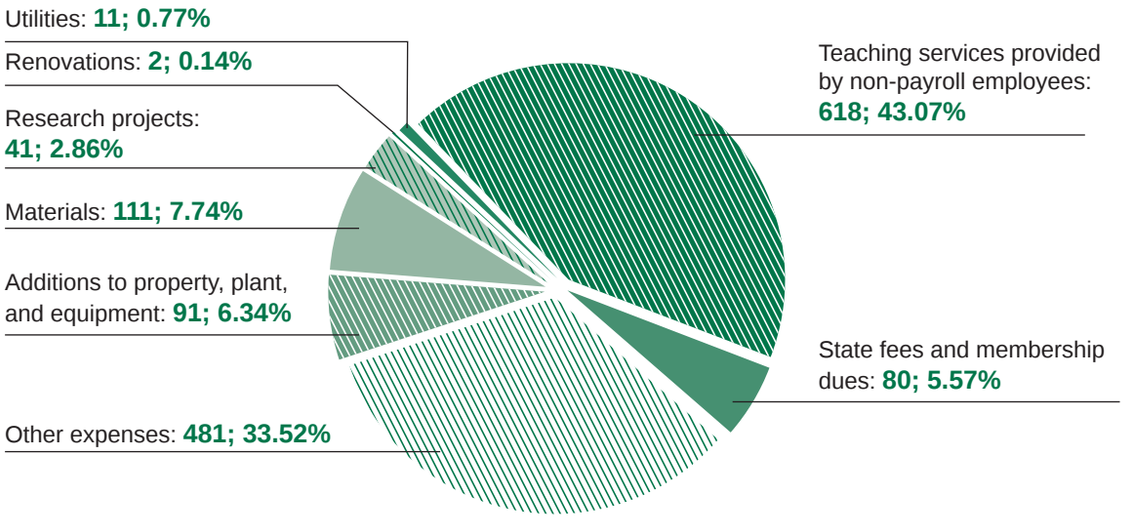


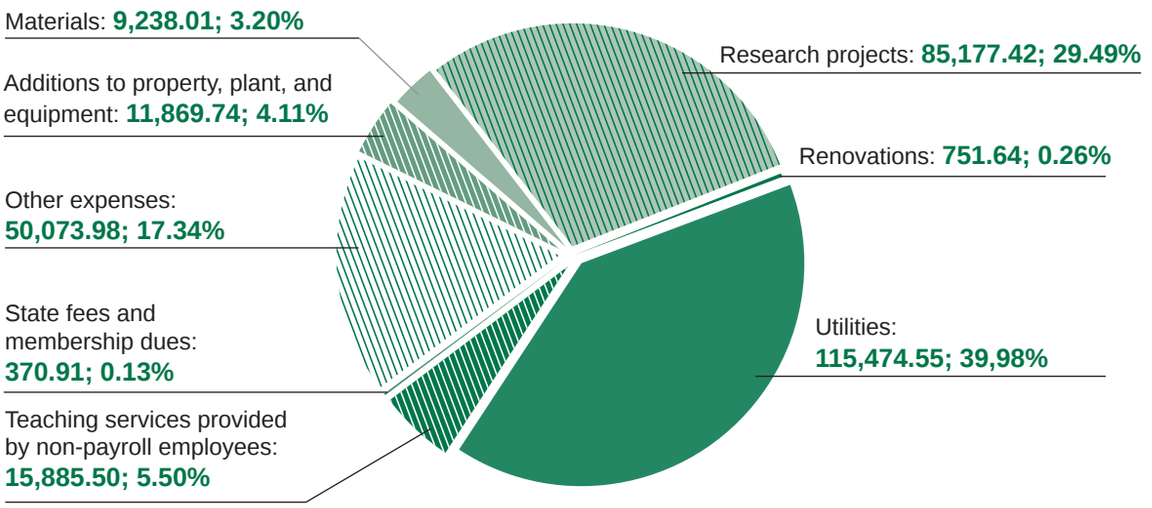
Table 6.11

ANALYSIS OF THE CONTENT AND STRUCTURE OF THE CONTRACTS OF PURCHASE FROM A SINGLE SUPPLIER BY THE MAIN FOR PURCHASING ACTIVITIES

No.	Procurement item	Volume of contracts signed using grants, using funds provided to fulfil contract, as well as funds obtained from individuals and legal entities through other revenue-generating activities					
		Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Additions to property, plant, and equipment	12,298.97	11,869.74	-429.23	13.15	4.11	-9.04
2	Materials	11,967.26	9,238.01	-2,729.25	12.79	3.20	-9.59
3	Research projects	7752.87	85,177.42	77,424.55	8.29	29.49	21.20
4	Renovations	4684.68	751.64	-3,933.04	5.01	0.26	-4.75
5	Utility services	18,200.45	115,474.55	97,274.10	19.45	39.98	20.53
6	Teaching services provided by non-payroll employees	10,070.19	15,885.50	5,815.31	10.76	5.50	-5.26
7	State fees and membership dues	353.67	370.91	17.24	0.38	0.13	-0.25
8	Other expenses	28,232.37	50,073.98	21,841.61	30.18	17.34	-12.84
Total		**93,560.46**	**288,841.75**	**195,281.29**	**100**	**100.0**	**–**

Figure 6.8

ANALYSIS OF THE CONTENT AND STRUCTURE OF PURCHASE CONTRACTS IN 2021 FROM A SINGLE SUPPLIER (CONTRACTOR, AGENT), BY THE MAIN ITEMS OF EXPENDITURE, THOUSAND ROUBLES



An analysis of the content and structure of purchase contracts from a single supplier (contractor, agent) in the main areas of purchasing activities presented in Tables 6.10 and 6.11 shows that the greatest number of contracts were signed for utility services and research and development. These contracts also had the greatest cost. The number of contracts for teaching services increased. It should be noted that in 2021 the volume of purchases for repair works decreased and amounted to 0.26%, which is 4.75% less as compared to the previous year.

Table 6.12 shows an analysis of the volume and structure of the contracts signed in 2021 and financed through subsidies obtained from the Russian Federation state budget resources, signed through various methods of competitive selection of the supplier (contractors, agent).

Table 6.12

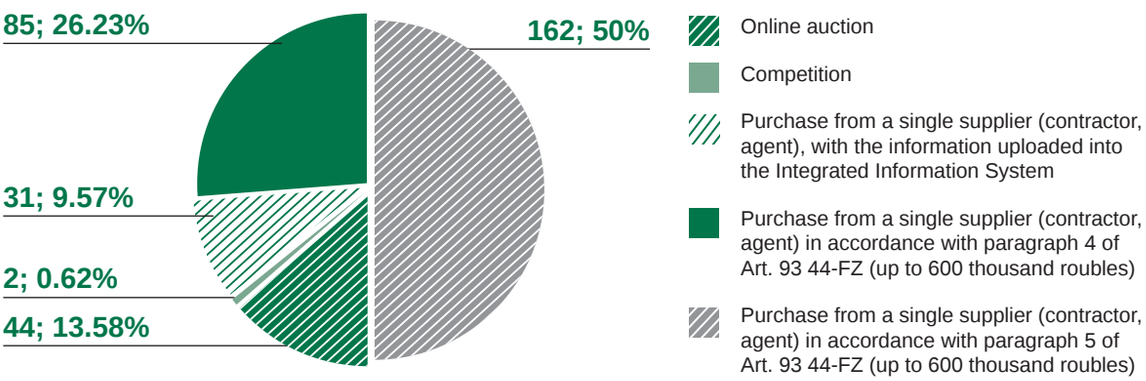
ANALYSIS OF THE VOLUME AND STRUCTURE OF THE CONTRACTS FINANCED THROUGH SUBSIDIES OBTAINED FROM THE RUSSIAN FEDERATION STATE BUDGET RESOURCES, SIGNED THROUGH VARIOUS METHODS OF COMPETITIVE SELECTION OF THE SUPPLIER

No.	Methods of supplier selection	Volume of the contracts signed in 2020-2021					
		Quantity, pcs		Absolute difference, pcs.	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Online auction	76	44	-32	27.64	13.58	-14.06
2	Competition	3	2	-1	1.09	0.62	-0.47
3	Invitation to tender	0	0	0	0	0.00	0.00
4	Purchase from a single supplier (contractor, agent), with the information uploaded into the Integrated Information System	14	31	17	5.09	9.57	4.48
5	Purchase from a single supplier (contractor, agent) in accordance with paragraph 4 of Art. 93 44-FZ (up to 600 thousand roubles)	105	85	-20	38.18	26.23	-11.95
6	Purchase from a single supplier (contractor, agent) in accordance with paragraph 5 of Art. 93 44-FZ (up to 600 thousand roubles)	77	162	85	28	50.00	22.00
Total		**275**	**324**	**49**	**100**	**100**	**–**

It should be noted that in terms of the number of signed contracts financed by subsidies provided from the budgets of the budgetary system of the Russian Federation, the university maintains a leading trend in purchases from a single supplier (contractor, agent) up to 600 thousand roubles. (85.8% of the total volume of signed contracts). It should be noted that the percentage of these contracts when compared to the previous year decreased by 29.5%. In second place are contracts for the purchase of goods, works, and services using online auctions (13.58% of the total volume of contracts signed using this source of financing).

Figure 6.9

ANALYSIS OF THE STRUCTURE OF CONTRACTS SIGNED IN 2021 AND FUNDED WITH SUBSIDIES OBTAINED FROM THE RUSSIAN FEDERATION STATE BUDGET RESOURCES USING VARIOUS METHODS FOR SELECTION OF SUPPLIER (CONTRACTOR, AGENT)



The contracts financed through subsidies obtained from the Russian Federation state budget resources were mainly signed with a single supplier. The purchase structure also uses competitive selection of suppliers (contractors, agents), including online auction (13.58% of the total volume of signed contracts) and online competition with the information uploaded into the Integrated Information System (0.62% of the total volume of signed contracts) The use of competitive selection of supplier (contractor, agent) in the reporting period increased significantly in comparison with the previous reporting period and amounted to 32.59% of the total volume of purchases, or 93,792.88 thousand roubles.

Table 6.13

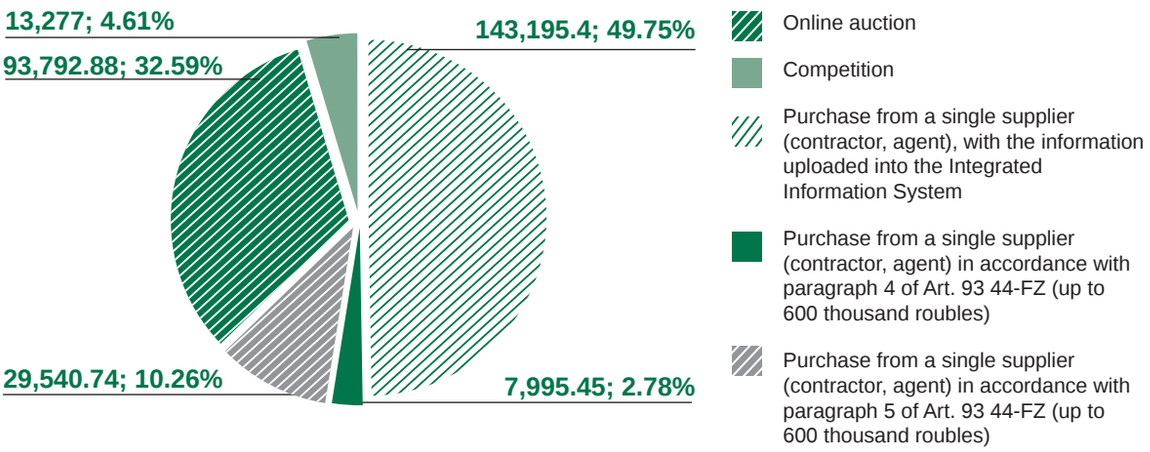
ANALYSIS OF THE VOLUME AND STRUCTURE OF THE CONTRACTS FINANCED THROUGH SUBSIDIES OBTAINED FROM THE RUSSIAN FEDERATION STATE BUDGET RESOURCES, SIGNED THROUGH VARIOUS METHODS OF COMPETITIVE SELECTION OF THE SUPPLIER

No.	Methods of supplier selection	Volume of the contracts signed in 2020-2021					
		Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Online auction	87,150.75	93,792.88	6,642.13	37.55	32.59	-4.96
2	Competition	54,050	13,277	-40,773	23.29	4.61	-18.67
3	Invitation to tender	0	0	0	0	0.00	0.00
4	Purchase from a single supplier (contractor, agent), with the information uploaded into the Integrated Information System	66,106.93	143,195.4	77,088.47	28.48	49.75	21.27
5	Purchase from a single supplier (contractor, agent) in accordance with paragraph 4 of Article 93 44-FZ (up to 600 thousand roubles)	6999.62	7995.45	995.83	3.02	2.78	-0.24
6	Purchase from a single supplier (contractor, agent) in accordance with paragraph 5 of Article 93 44-FZ (up to 600 thousand roubles)	17,784.62	29,540.74	11,756.12	7.66	10.26	2.60
Total		**232,091.92**	**287,801.47**	**55,709.55**	**100.0**	**100.0**	**–**

The contracts signed with a single supplier have the largest percentage, which is 49.75% of the total value of contracts financed through subsidies obtained from the Russian Federation state budget resources. The competitive selection of suppliers (contractors, agents) in the form of online auction or online competition altogether amounted to 37.6% of the total number of contracts funded with subsidies obtained from the Russian Federation state budget resources.

Figure 6.10

ANALYSIS OF THE VOLUME AND STRUCTURE OF THE CONTRACTS FINANCED THROUGH SUBSIDIES OBTAINED FROM THE RUSSIAN FEDERATION STATE BUDGET RESOURCES, SIGNED THROUGH VARIOUS METHODS OF COMPETITIVE SELECTION OF THE SUPPLIER



Other sources of financing were grants; funds obtained from contract execution; as well as funds obtained from individuals and legal entities through other income-generating activities. The analysis of the structure of the contracts of purchase from a single supplier (contractor, agent), in quarterly periods of 2021, is shown in Table 6.14.

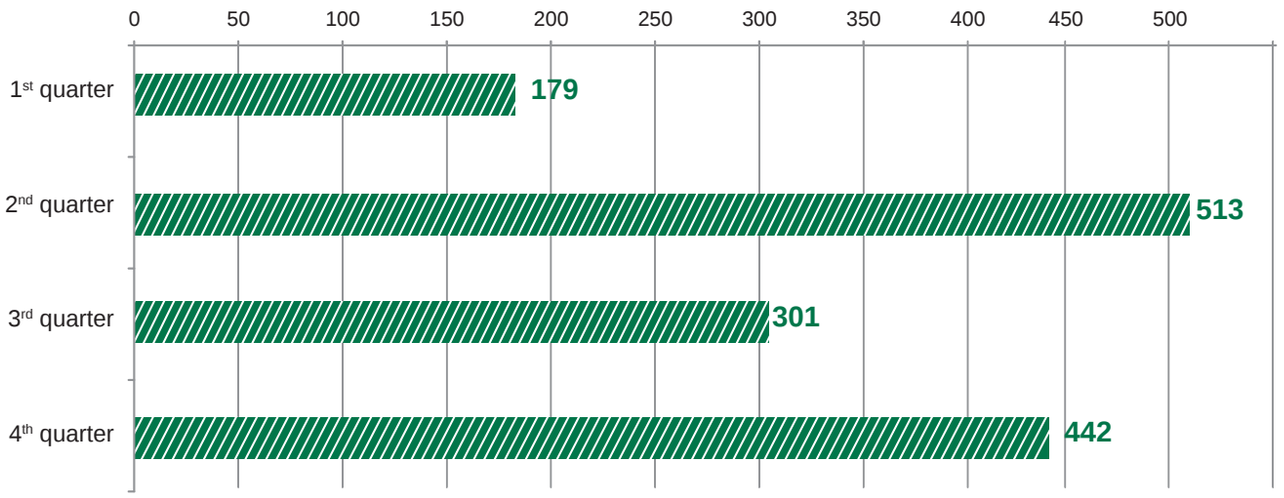
Table 6.14

ANALYSIS OF THE VOLUME AND STRUCTURE OF PURCHASE CONTRACTS FROM A SINGLE SUPPLIER (CONTRACTOR, AGENT)

Quarter Period	Volume of contracts signed using grants; funds provided to fulfil contract; as well as funds obtained from individuals and legal entities through other revenue-generating activities					
	Quantity, pcs		Absolute difference, pcs.	Percentage of the total, %		Percentage variation, points
	2020	2021		2020	2021	
1st quarter	171	179	8	14.69	12.47	-2.22
2nd quarter	310	513	203	26.63	35.75	9.12
3rd quarter	267	301	34	22.94	20.98	-1.96
4th quarter	416	442	26	35.74	30.80	-4.94
Total	1164	1,435	271	100	100.0	–

Figure 6.11

ANALYSIS OF THE STRUCTURE OF THE NUMBER OF PURCHASE CONTRACTS FROM A SINGLE SUPPLIER (CONTRACTOR, AGENT), PCS.



The contracts signed with a single supplier (contractor, agent) for the purchases in the 2nd quarter of 2021 have the largest percentage, which amounts to 35.75% and indicates the tendency to sign a larger number of contracts towards the end of the reporting period. The 4th quarter also has a high percentage in purchases, which is due to signing the contracts the effect of which will apply in the following reporting period. As regards this indicator in terms of value, the maximum share of the contracts were signed in the 4th quarter of 2021 (48.40%). In 2020, as compared to 2021, the contracts signed with a single supplier (contractor, agent) had the largest percentage in the 4th quarter (33.71%). The quarterly value of goods, works, and services purchased exceeded the average by 23.40%. In 2021, this indicator decreased by 14.69% and amounted to 48.40%.

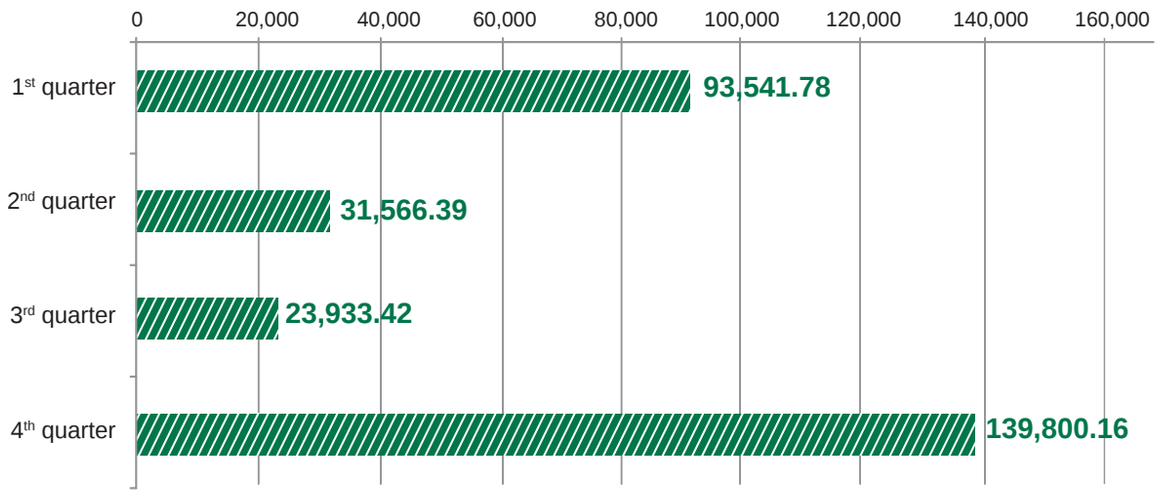
Table 6.15

ANALYSIS OF THE VOLUME AND STRUCTURE OF PURCHASE CONTRACTS FROM A SINGLE SUPPLIER (CONTRACTOR, AGENT)

Quarterly period	Volume of the contracts signed in 2020-2021 using grants, funds provided to fulfil contracts; as well as funds obtained from individuals and legal entities through other income-generating activities					
	Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		Percentage variation, points
	2020	2021		2020	2021	
1st quarter	27,047.17	93,541.78	66,494.61	25.59	32.39	6.80
2nd quarter	16,757	31,566.39	14,809.39	15.85	10.93	-4.92
3rd quarter	26,275.54	23,933.42	-2,342.12	24.85	8.29	-16.57
4th quarter	35,632.82	139,800.16	104,167.34	33.71	48.40	14.69
Total	**105,712.53**	**288,841.75**	**183,129.22**	**100**	**100**	**–**

Figure 6.12

ANALYSIS OF THE STRUCTURE OF PURCHASE VALUE CONTRACTS FROM A SINGLE SUPPLIER (CONTRACTOR, AGENT), THOUSAND ROUBLES



The data presented in Table 6.13 shows that for the value of contracts from a single supplier (contractor, agent) the uniformity of procurement was substantially impaired. For the 1st quarter, 32.39% of the volume is accounted for purchases from a single supplier (contractor, agent). It should be noted that, compared to 2020, this indicator increased and exceeded the condition of uniform procurement by only 12.39%.

The unified schedule of orders for the purchases of goods, works, and services from Voronezh State University subdivisions was created using a unified purchasing request form. In the reporting period, 1595 requests were processed from the structural subdivisions as part of formation for the procurement of goods, works, and services for the planning period. Compared to 2020, the number of requests increased by 671 units, which amounted to 72.62%. The analysis of the number of submitted requests and modifications to their content is presented in Table 6.16.

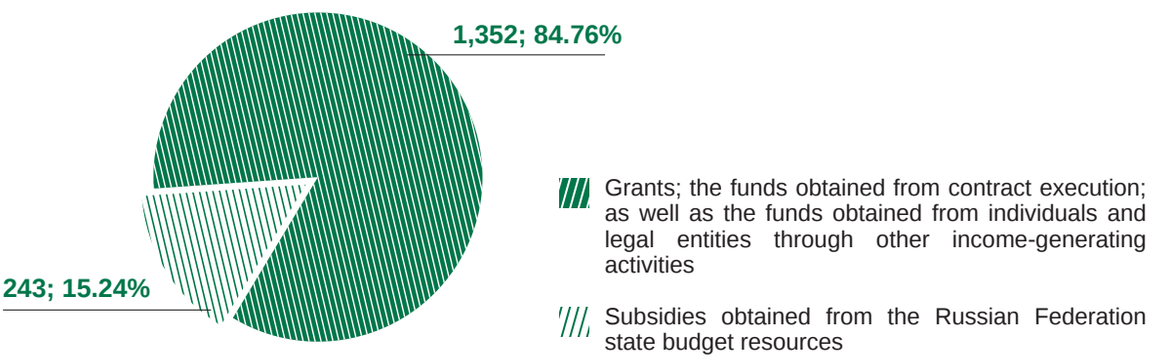
Table 6.16

ANALYSIS OF THE OF SUBMITTED REQUESTS BY FINANCIAL SOURCES FOR THE PURCHASE OF GOODS, WORKS, AND SERVICES

No.	Funding	Information on the requests submitted					
		Quantity, pcs		Absolute difference, pcs.	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	834	1,352	518	90.26	84.76	-5.49
2	Subsidies obtained from the Russian Federation state budget resources	90	243	153	9.74	15.24	5.49
Total		**924**	**1,595**	**671**	**100**	**100.0**	**–**

Figure 6.13

ANALYSIS OF THE STRUCTURE OF SUBMITTED REQUESTS AND THEIR CHANGES BY FINANCIAL SOURCES FOR THE PURCHASE OF GOODS, WORKS, AND SERVICES



Certain subdivisions did not submit requests during the fixed planning dates, which disregards the deadlines for the cost planning. As a result, these needs for the purchases of goods, works, and services have to be added to the purchasing time-schedule based on organisational and administrative documents from the subdivisions and changes in the time-schedule in the unified information system.

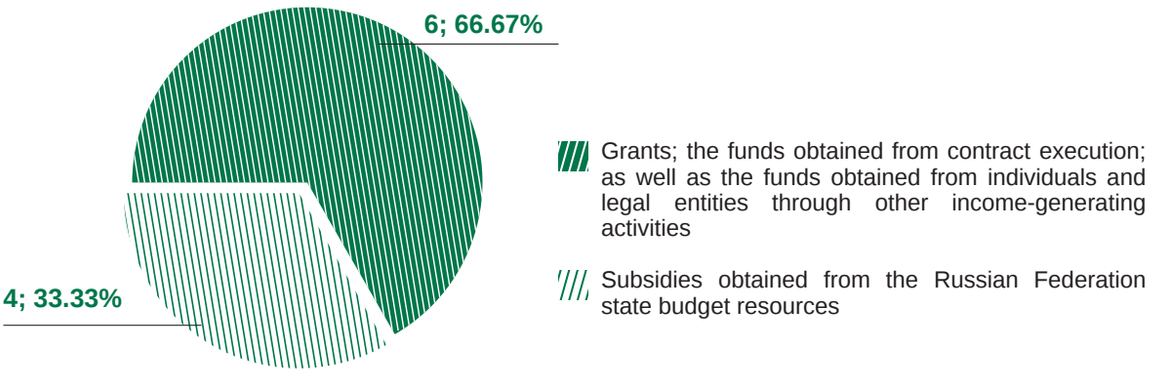
Table 6.17

ANALYSIS OF THE NUMBER OF MODIFICATIONS IN THE TIME-SCHEDULE FOR ALL SOURCES OF FINANCING FOR THE PURCHASING ACTIVITIES

No.	Funding	Number of changes to the time-schedule					
		Quantity, pcs		Absolute difference, thousand roubles	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	10	6	-2	55.56	66.67	11.11
2	Subsidies obtained from the Russian Federation state budget resources	8	4	-4	44.44	33.33	-11.11
Total		**18**	**12**	**-6**	**100**	**100**	**–**

Figure 6.14

ANALYSIS OF THE NUMBER OF MODIFICATIONS IN THE TIME-SCHEDULE FOR ALL SOURCES OF FINANCING FOR THE PURCHASING ACTIVITIES



The time-schedule for purchases using the subsidies obtained from the Russian Federation state budget resources was modified 4 times, i.e. less than once per quarterly reporting period. Compared to the previous reporting period, the number of modifications decreased by half. As part of the implementation of the Federal Law No. 223-FZ, 8 modifications were made in the purchasing time-schedule of goods, works, and services, which is twice less compared to the previous year. It should be noted that the trend of strengthening the executive discipline in the area of the documentation flow on the procurement of goods, works, and services remained. The number of modifications to the provisions of the time-schedule and schedule for purchases decreased, which characterises the quality of planning of the university's purchase activities.

Table 6.18

ANALYSIS OF THE VOLUME AND STRUCTURE OF CONTRACTS SIGNED AS PART OF ORDER PLACEMENT FOR PURCHASING GOODS, WORKS AND SERVICES IN 2020-2021

No.	Funding	Volume of the contracts signed based on a competitive selection of supplier					
		Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	188,121.51	231,757.81	43,636.3	57.12	68.40	-24.45
2	Subsidies obtained from the Russian Federation state budget resources	141,200.75	107,069.88	-34,130.87	42.88	31.60	24.45
Total		**329,322.26**	**338,827.69**	**9,505.43**	**100**	**100**	**–**

As a part of the implementation of Federal Law No. 223-FZ of 18 July 2011, 1553 contracts were signed for the amount of 520,599.56 thousand roubles. Thus, the amount of money saved based on the competitive selection of supplier (contractor, agent) amounted to 15,358.48 thousand roubles, or 6.44% of the initial maximum cost of submitted requests.

During the formation of the unified time-schedule for purchases, due to the implementation of Federal Law No. 223-FZ of 18 July 2011, 243 requests were accepted and 325 contracts were signed for the amount of 55,894.54 thousand roubles. Thus, the amount of money saved as a result of following the purchasing procedure amounted to 4,870.9 roubles, or 4.35% of the initial maximum cost of the submitted requests (Tables 6.19 and 6.20, Figure 6.15).

Table 6.19

ANALYSIS OF THE VOLUME OF CONTRACTS AT THE INITIAL MAXIMUM PRICE BASED ON THE COMPETITIVE SELECTION OF SUPPLIER BY SOURCE OF FINANCING

No.	Funding	Initial maximum price of the contracts					
		Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	203,479.99	241,106.6	37,626.61	56.95	68.29	11.34
2	Subsidies obtained from the Russian Federation state budget resources	153,819.25	111,940.78	-41,878.47	43.05	31.71	-11.34
Total		**357,299.24**	**353,047.38**	**-4,251.86**	**100**	**100**	**–**

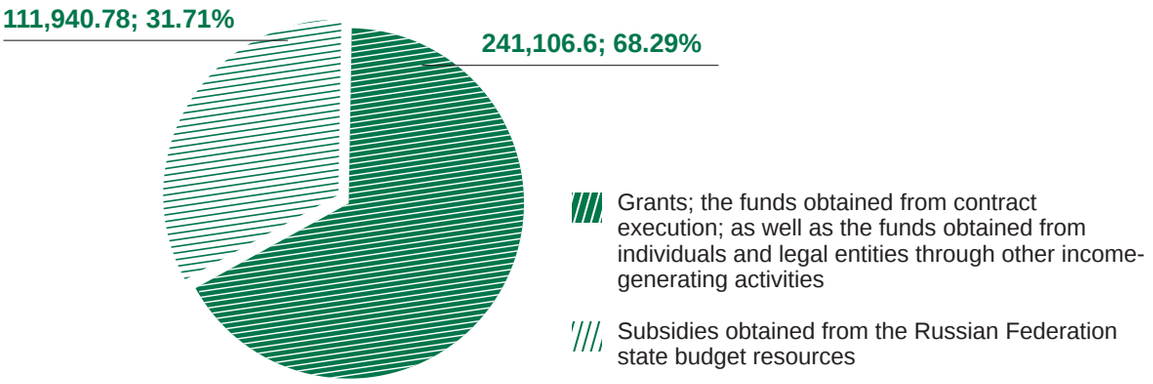
Table 6.20

AMOUNT OF MONEY SAVED THROUGH THE COMPETITIVE SELECTION OF SUPPLIERS, BY SOURCE OF FINANCING

No.	Funding	Initial maximum price of the contracts					
		Value, thousand roubles		Absolute difference, thousand roubles	Percentage of the total, %		Percentage variation, points
		2020	2021		2020	2021	
1	Grants; the funds obtained from contract execution; as well as the funds obtained from individuals and legal entities through other income-generating activities	15,358.48	9348.79	-6009.69	54.90	65.75	10.85
2	Subsidies obtained from the Russian Federation state budget resources	12,618.51	4870.90	-7747.61	45.10	31.71	-10.85
Total		**27,976.99**	**14,219.69**	**-13,757.30**	**100**	**100**	**–**

Figure 6.15

ANALYSIS OF THE AMOUNT OF MONEY SAVED THROUGH THE COMPETITIVE SELECTION OF SUPPLIERS (CONTRACTOR, AGENT) BY SOURCE OF FINANCING



According to Table 6.19 in the reporting period, the amount of financial savings in the source of financing “subsidies obtained from the Russian Federation state budget resources” significantly increased compared to 2020 and amounted to 34.25% to the total cost savings. The money saved amounted to 4,870.90 roubles, or 4.35% of the initial maximum cost of the contracts included in the purchasing time-schedule. The purchases made as part of the implementation of the Federal Law No. 223-FZ resulted in financial savings of 14 457.4 thousand roubles, which is 65.75% of the total cost savings. It should be noted that the reduction of the total cost savings as part of purchasing activities in the reporting year depends on the non-proportional impact of the price change factor in the reporting period, which led to the reduction of the total cost savings of the university.

6.7. ANALYSIS OF VSU'S FINANCIAL ACTIVITIES

In accordance with the balance sheet statistics, the aggregate structure and change in VSU's assets and the sources of their formation are shown in Tables 6.28, 6.29.

Table 6.21

VSU ASSET DYNAMICS IN 2021 (ACCORDING TO THE DATA FROM THE BALANCE SHEET)

No.	Asset items	As of the beginning of 2021	As of the end of 2021	Absolute change	Growth ratio, %
	I. Non-financial assets, thousand roubles				
1	Property, plant and equipment (residual value)	1,442,989.0	1,364,356.2	-78,632.8	95.55
2	Intangible assets (residual value)	26.6	20.6	-6	77.44
3	Non-produced assets	1,882,339.7	1,971,046.2	+88,706.5	104.71
4	Material assets	43,872.2	44535.0	+662.8	101.51
5	Rights to use assets	370.8	33,636.6	+33,265.8	9071.36
6	Investments in the non-financial assets	64,979.2	69,345.5	+4366.3	106.72
7	Cost of provision of goods, works, and services	1762.4	350.3	-1412.1	19.88
8	Prepaid expenses	7971.7	2556.0	-5415.7	32.06
9	**Total non-financial assets**	**3,444,311.6**	**3,485,846.4**	**+41,534.8**	**101.21**
	II. Financial assets, thousand roubles				
10	Cash and cash equivalents	964,934.8	1,006,107.6	+41,172.8	104.27
11	Accounts receivable for the settlement of revenues	3,961,938.5	3,233,299.7	-728,638.8	81.61
12	Accounts receivable for payments	1907.9	82,088.9	+80,181	4302.58
13	Other settlements with creditors	1224.0	204.6	-1019.4	16.72
14	**Total financial assets**	**4,930,004.7**	**4,321,700.8**	**-608,303.9**	**87.66**
15	**Total VSU assets (grand total)**	**8,374,316.2**	**7,807,547.2**	**-566,769.0**	**93.23**

In 2021, the grand total was 7,807,547.2 thousand roubles, an increase of 566,769.0 thousand roubles (93.23%).

Table 6.22

VSU ASSET DYNAMICS IN 2021 (ACCORDING TO THE DATA FROM THE BALANCE SHEET)

No.	Liability items	As of the beginning of 2021	As of the end of 2021	Absolute change	Growth ratio, %
	I. Liabilities, thousand roubles				
1	Accounts payable for payments	15,084.5	22,088.4	7003.9	146.43
2	Settlement of payments into the budget	10,837.8	6791.3	-4046.5	62.66
3	Other settlements (settlement of loans)	4655.0	4617.3	-37.7	99.19
4	Accounts payable for revenues	742,412.9	1,182,104.4	439,691.5	159.22
5	Settlements with founders	3,843,428.3	4,040,302.9	196,874.6	105.12
6	Deferred income	3,698,256.2	2,149,268.3	-1,548,987.9	58.12
7	Provisions for future liabilities	130,461.3	101,818.1	-28,643.2	78.04
8	**Total liabilities**	**8,445,136.0**	**7,506,990.7**	**-938,145.3**	**88.89**
	II. Financial results, thousand roubles				
9	**Financial results of an economic entity**	**(120,999.8)**	**300,556.5**	**+421,565.3**	**–**
10	**Total sources of VSU assets (grand total)**	**8,374,316.2**	**7,807,547.2**	**-566,769.0**	**93.23**

In 2021, the financial result was positive due to a net operating profit in the reporting period and a corresponding reduction in loss from the operating activities of previous reporting periods. In 2021, the financial result was 300,556.50 thousand roubles, which has improved compared to the previous year (Table 6.23).

Table 6.23

VSU ASSET STRUCTURE IN 2021 (ACCORDING TO THE DATA FROM THE ANALYTICAL DATA SHEET)

No.	Indicator	Share, %		Change (+, –)
		As of the beginning of 2021	As of the end of 2021	
1	**Non-financial assets – total**	**41.13**	**44.65**	**+3.52**
	Including: Property, plant and equipment (residual value)	17.23	17.48	0.25
	Non-produced assets	19.41	25.25	5.84
	Material assets	0.52	0.57	0.05
	Investments in non-financial assets (capital investments)	0.78	1.35	0.57
2	**Financial assets – total**	**58.87**	**55.35**	**-3.52**
	Including: Cash and cash equivalents	11.52	12.89	1.37
	Settlements with debtors	47.31	42.46	-4.85
3	**Total Assets**	**100.0**	**100.0**	**–**

At the end of 2021, the largest percentage in VSU's asset structure was accounted for settlements with debtors (42.46%), non-produced assets (land) (25.25%), property, plant, and equipment (17.48%), cash (12.89%). The increase in financial assets in the reporting period led to an increase from 41.13% to 44.65%.

In 2021, the structure of the formation of VSU's assets includes liabilities to the founder regarding the land, property, plant, and equipment assigned to the University to operate and administer, liabilities to the creditors, and financial result (Table 6.24).

Table 6.24

STRUCTURE OF THE SOURCES OF VSU ASSET FORMATION IN 2021 (ACCORDING TO THE DATA FROM THE ANALYTICAL DATA SHEET)

No.	Indicator	Share, %		Change (+, –)
		As of the beginning of 2021 years	As of the end of 2021 years	
1	**Liabilities to the founder**	**45.9**	**51.74**	**+5.84**
2	**Liabilities to the creditors – total**	**54.9**	**44.41**	**-10.49**
	Including: Settlement of revenues	8.9	15.14	+6.24
	Settlement of accepted obligations	1.7	1.73	+0.03
	Settlement of payments into the budget	0.1	0.09	-0.01
	Other accounts payable	44.2	26.45	-17.75
3	**Financial results (internal funds) – total**	**(0.8)**	**3.85**	**+4.65**
4	**Total sources of asset formation**	**100.0**	**100.0**	**–**

In 2021, the structure of the formation of VSU's assets saw a considerable decrease in other types of accounts payable (by 17.75%) and positive changes in the column of the financial result, which increased by 4.65 points.

In 2021, there was an increase in additions to property, plant, and equipment of 100,798.10 thousand roubles. 47.3% of the additions to property, plant, and equipment were financed by VSU and non-repayable receipts and 52.7% were financed from federal subsidies, including targeted subsidies for purchasing property, plant, and equipment (6,518 thousand roubles).

Table 6.25

STRUCTURE AND DYNAMICS OF THE ADDITIONS TO PROPERTY, PLANT, AND EQUIPMENT BY FINANCIAL SOURCES

Financial source	2020		2021		Change (+, –)	
	thousand roubles	Percentage, %	thousand roubles	Percentage, %	thousand roubles	Percentage, %
Property, plant and equipment purchased - total	**189,840.9**	**100.0**	**79,042.8**	**100.0**	**-100,798.10**	**–**
Including: Funded by VSU	63,392.2	33.4	37,351.0	47.3	-26,041.2	+13.9
By federal subsidies	126,448.7	66.6	41,691.8	52.7	-84,756.9	-13.9

Table 6.26

ANALYSIS OF VSU'S FIXED ASSET DEPRECIATION

No.	Indicator	As of the beginning of 2021	As of the end of 2021	Absolute difference (+, –)	Growth ratio, %
1	Book value of fixed assets, thousand roubles	3,030,542.9	3,095,269.2	+64726.3	102.14
	Including: Real estate of the establishment	1,435,800.4	1,435,800.4	0	100.00
	Most valuable movable assets	706,650.9	752,734.3	+46,083.4	106.52
2	Depreciation of fixed assets, thousand roubles	1,587,554.0	1,730,913.0	+143,359	109.03
	Including: Real estate of the establishment	350,571.1	408,501.2	+57,930.1	116.52
	Most valuable movable assets	430,914.4	502,652.5	+71,738.1	116.65
3	Net value of property, plant, and equipment, thousand roubles	1,442,988.9	1,364,356.2	-78632.7	94.55
	Including: Real estate of the establishment	1,085,229.3	1,027,299.2	-57,930.1	94.66
	Most valuable movable assets	275,736.5	250,081.8	-25,654.7	90.70
4	**Coefficient of depreciation, %**	**52.39**	**55.92**	**+3.53**	**×**
	Including: Real estate of the establishment	24.42	28.45	+4.03	×
	Most valuable movable assets	60.98	66.78	+5.8	×

In 2021, due to capital investments into property, plant, and equipment the depreciation coefficient of these assets was at the same level as in the previous year (52.39%). As for VSU's real estate, this figure was 28.45%. The book value of fixed assets increased by 64,726.3 thousand roubles, or 2.14% (Table 6.26).

Table 6.27

ANALYSIS OF VSU'S CURRENT FINANCIAL SOLVENCY

No.	Indicator	As of the beginning of 2021	As of the end of 2021	Absolute change (+, –)
	I. Initial values for analysis, thousand roubles			
1	Cash and cash equivalents	964,934.3	1,006,107.6	41,173.3
2	Resources in settlements with debtors	3,965,070.5	3,315,593.2	-649,477.3
3	Material assets	43,872.2	44,535.0	+662.8
4	Total operating assets (Art. 1 + Art. 2 + Art. 3)	4,973,877.0	4,366,235.8	-607,641.2
5	Total liabilities to the creditors	772,990.2	1,215,601.4	+442,611.2
	II. Current solvency ratio, coefficient			
6	Absolute liquidity ratio (covering liabilities to creditors using monetary funds)	1.25	0.83	-0.42
7	Marginal liquidity ratio (covering the liabilities to the creditors using monetary funds and the resources in settlements with debtors)	6.38	3.56	-2.82
8	Current liquidity ratio (covering liabilities to creditors using operating assets)	6.43	3.59	-2.84

At the end of the reporting period, the university was able to discharge its liabilities to its creditors in full through available funds. In the assessment of financial stability, there is a special emphasis on determining the coverage of the fixed assets and other non-current assets, which have the greatest percentage in the properties of the university, by long-term sources of financing. Such sources include liabilities to the founder and internal funds in the form of the financial result (from operating activities, accrual of depreciation, and provisions for future liabilities). As of the beginning of 2021, this indicator amounted to 111.97%. By the end of the reporting period, there had been a significant increase in the long-term sources of financing (by 15.52%) (Table 6.27).

Table 6.28

COVERAGE OF THE FIXED ASSETS AND OTHER NON-CURRENT ASSETS BY LONG-TERM SOURCES OF FINANCING

No.	Indicator	As of the beginning of 2021	As of the end of 2021	Absolute change (+, –)
1	Net value of property, plant, and equipment, thousand roubles	1,442,988.9	1,364,356.2	-78,632.7
2	Net value of intangible assets, thousand roubles	26.6	20.5	-6.1
3	Balance value of non-produced assets, thousand roubles	1,882,339.7	1,971,046.2	+88,706.5
4	Investments in the non-financial assets, thousand roubles	64,979.2	69,345.5	+4366.3
5	**Total non-current assets (Art. 1 + Art. 2 + Art. 3 + Art. 4), thousand roubles**	**3,390,334.4**	**3,404,768.4**	+14,434.0
6	Liabilities to the founder, thousand roubles	3,917,266.1	4,040,302.9	+123,036.8
7	Financial results (internal funds), thousand roubles	-120,999.8	300,556.5	+421,556.3
8	**Total value of the sources of non-current asset formation (Art. 6 + Art. 7), thousand roubles**	**3,796,266.3**	**4,340,859.4**	**+544,593.1**
9	**The ratio of the coverage of the fixed assets by long-term sources of financing, % (Art. 8: Art. 5)**	**111.97**	**127.49**	**+15.52**

Table 6.28 shows an increase in the carrying value of the non-produced assets (by 88,706.5 thousand roubles). A decrease in the residual value of property, plant, and equipment affected (by 78,632.7 thousand roubles) slightly affected the final result of capital assets coverage.

6.8. THE DYNAMICS OF THE STAFF REWARD SYSTEM IN 2020-2021

The payroll budget of the university with staff compensation payment charges (not including the branches) in 2021 was 1,685,382.5 thousand roubles, including:

- From subsidies: 917,482.4 thousand roubles
- From extra-budgetary funds: 767,900.1 thousand roubles.

The payroll budget of the university with staff compensation payment charges (not including the branches) in 2020 was 1,508,147.5 thousand roubles, including:

- From subsidies: 801,007.7 thousand roubles
- From extra-budgetary funds: 707,139.8 thousand roubles.

Compared to 2020, the payroll budget of the university increased by 11.8%, including:

- 14.5% decrease in subsidies
- 8.6% increase from extra-budgetary funds .

Figure 6.16

COMPARATIVE ANALYSIS OF THE PAYROLL BUDGET IN 2020 AND 2021

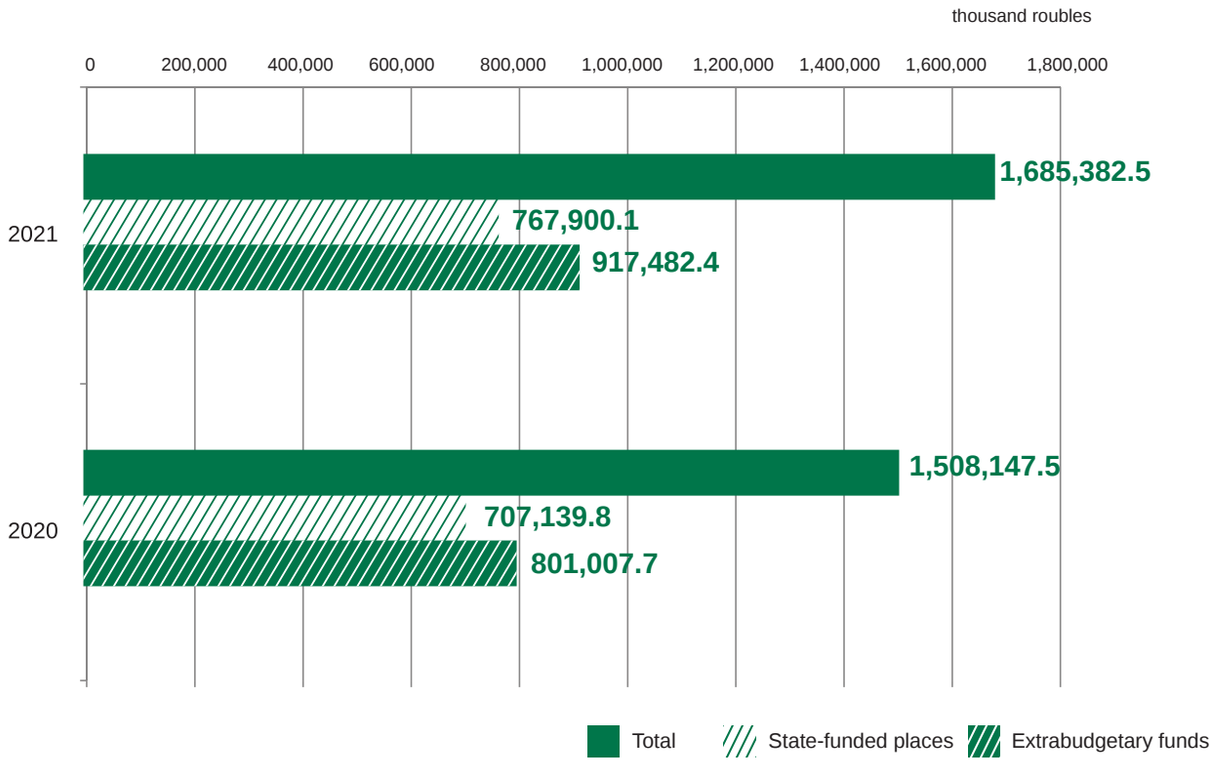
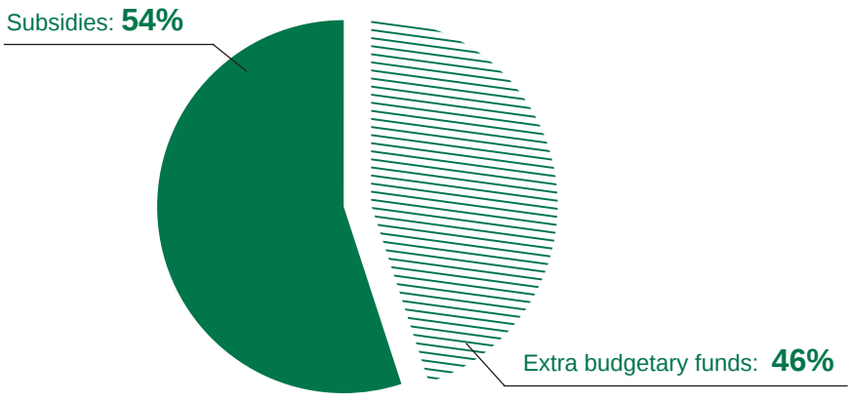


Figure 6.17

PAYROLL BUDGET STRUCTURE BY THE SOURCE OF FINANCING IN 2021



MEASURES TAKEN TO RAISE THE SALARIES AND SOCIAL WELFARE OF UNIVERSITY STAFF

In 2021, the practice of using the system of per capita financing to calculate the payroll budget for the categories of university employees was continued. The use of this system allowed maintaining the salary level by keeping the salary of academic staff and researchers at a level not less than 200% of the average salary in the region.

During 2021 the salaries were increased:

- After 1 August 2021 for academic and research staff and researchers.
- After 1 January and 1 August 2021 for other employees (twice).

Within the framework of the Regulation “On indicators of the effectiveness of the activities of academic staff of Voronezh State University” monthly allowances have been established for academic staff:

1. Monthly allowances were established. The amount of payments under an effective contract for academic staff in 2021 increased by 6,000 thousand roubles as compared to 2020 (50%) and amounted to 18,000 thousand roubles. The number of employees receiving this payment amounted to 177 people (in 2020 it was 178 people).

2. Major indicators for the evaluation of academic staff performance were established. The following lump sum payments were established for the publication of research articles in leading journals and Q1-Q2 periodicals indexed in Web of Science and Scopus, taking into account the number of co-authors:

- 120 thousand roubles to article Q1 staff members (in 2020 – 100 thousand roubles);
- 100 thousand roubles to article Q2 staff members in 2020 – 80 thousand roubles.

The total amount of lump sum payments in this area was 7,000 thousand roubles. The greatest sum paid for Q1-Q2 articles was 420 thousand roubles and the lowest was 4.6 thousand roubles.

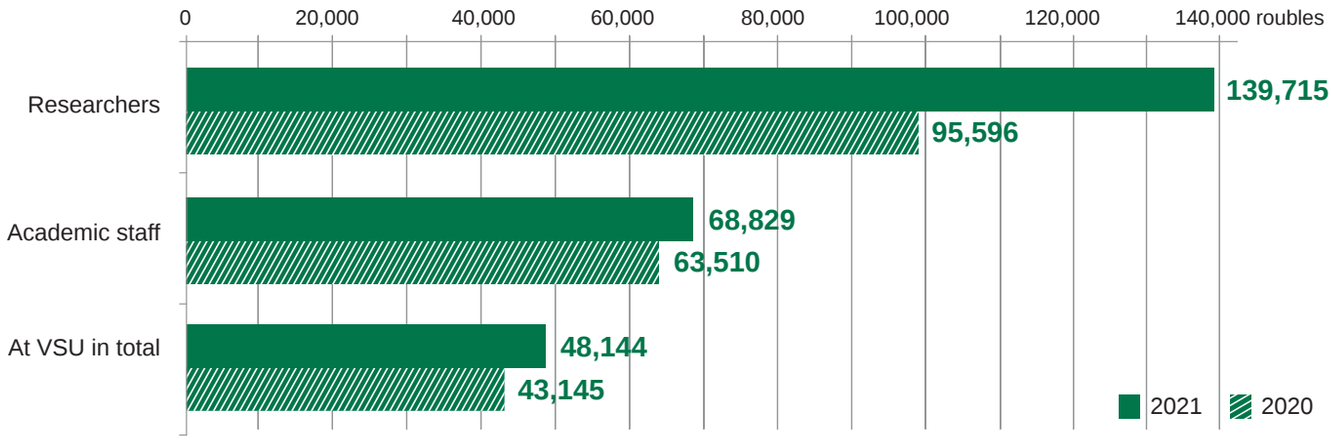
6.9. ANALYSIS OF THE AVERAGE SALARY OF THE ACADEMIC STAFF MEMBERS AT VSU COMPARED TO THE AVERAGE SALARY IN THE VORONEZH REGION

In 2021, the average salary of university staff members (including payments from all sources) amounted to 48,144 roubles, including::

- For academic staff, 68,829 roubles, which is 217.8% of the average wage in the region and exceeds the target value of the roadmap for 2021, equal to 200%.
- For research workers, 139,715 roubles, which is 442.1% of the average wage in the region and significantly exceeded the target value of the roadmap for 2021, which was 200% (Table 6.38, Figs. 6.18, 6.19).

Figure 6.18

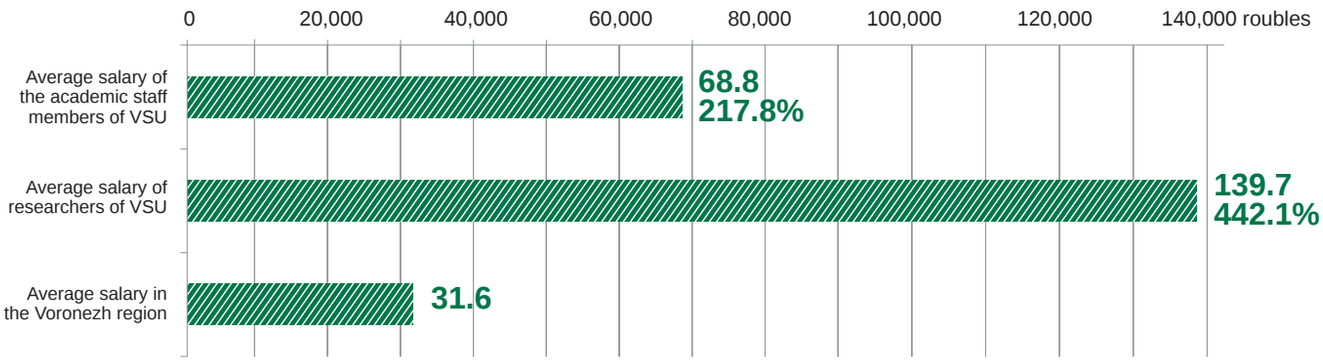
AVERAGE SALARY IN 2020-2021



In 2021, the average salary of university staff members increased by 11.6%.

Figure 6.19

AVERAGE SALARY OF ACADEMIC STAFF AND RESEARCHERS AT VORONEZH STATE UNIVERSITY AND THE AVERAGE SALARY IN THE VORONEZH REGION



6.10. BRIEF SUMMARY OF THE MAIN ACHIEVEMENTS IN 2021

Financial and operating activities:

- Compared to 2020, the total revenue in 2021 increased by 101,232.4 thousand roubles (3.6%). The Faculty of Law and the Faculty of Economics as is traditional remain the leaders in the receipt of funds from the main activities of the university: 15.9 and 12.6%, respectively, in the total amount of income from educational activities (Table
- The largest percentage in total expenses of the university were payments to personnel, which amounted to 59%. The percentage for the purchase of goods, works, and services amounted to 21%.
- Upgrading of university facilities using such additional sources of financing as subsidies, sponsored support and other revenue-generating activities.
- 2021 The minimization of expenditures by the university for the third year in a row led to a positive net operating financial result in the amount of 300,556.5 thousand roubles, which is 421,565.30 thousand roubles more than the previous year.
- Successful financial and business operations led to an increase in the current level of VSU's financial solvency.
- At the end of 2021, the university was able to discharge of its liabilities to the creditors in full through available funds.
- The improved financial stability for the fourth year in a row is due to the positive equity of the ratio of total assets.

Purchase activities:

- The number of contracts signed increased by 289 pcs, or by 18.2%, as compared to 2020, due to the growth in total financing of the purchase of goods, works, and services, including grants, funds obtained from contract execution, and funds obtained from other income-generating activities.

- In 2021, the volume of total financing for the purchasing of goods, works, and services increased by 71.86% due to purchases using targeted subsidies and purchases of research equipment through the fulfilment of grants.
- The number of contracts signed as a result of purchases from a single supplier (contractor, agent) up to 600 thousand roubles, decreased to 26.23% of the total number of contracts signed, but remains the main method of selecting the supplier (contractor, agent).
- The majority of expenses were related to the contracts for utility services and research and development. The number of contracts for the teaching services of the university increased by 5.01% from the total number of contracts signed for the purchase of goods, works, and services from a single supplier.
- The number of modifications to the provisions of the time-schedule for purchases decreased by 33.3% confirmed the improved quality of planning of the university's purchasing activities.
- The specialists of the purchasing department took an active part in continuing advanced training classes for contractual system specialists as part of the programme in Purchase Management in the Contractual System for 108 hours. In 2021, 42 VSU employees completed this programme using electronic university.

Salaries and social welfare of the university staff:

- The salaries of academic and research staff were kept at a level of not less than 200% of the average salary in the Voronezh region.
- In accordance with the Regulations "On indicators of the effectiveness of the activities of academic staff of Voronezh State University" for academic staff, monthly allowances were established. The amount of payments under an effective contract for academic staff in 2021 did not change in comparison with 2020 and amounted to 6,000 thousand roubles. (50%) and amounted to 18,000 thousand roubles. The number of employees receiving this payment amounted to 177 people (in 2020 it was 178 people). The total amount of lump sum payments for the publication of research articles in leading journals and Q1-Q2 periodicals indexed in Web of Science and Scopus was 7,000 thousand roubles.
- The tradition of providing bonuses for all categories of employees was continued.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INTERNATIONAL ACTIVITIES

7

7 INTERNATIONAL ACTIVITIES

A. V. Akulshina,
Head of the International Relations Office

7.1. VSU OBJECTIVES IN THE AREA OF INTERNATIONAL COOPERATION IN 2021

VSU's international activities are focused on the following tasks:

- To internationalise all areas of activities, from educational and research to administrative and organisational activities, and to engage all university staff into the process of internationalisation.
- To improve the university's standing in the international market for educational services.
- To develop international network academic programmes.
- To increase the number of international students.
- To enhance the academic mobility of academic staff, researchers, and students.
- To implement international educational and research projects.
- To develop strategic partnerships with international universities.

7.2. INTERNATIONAL ACADEMIC MOBILITY

The academic mobility of VSU students and lecturers is carried out under cooperation agreements with foreign universities. The university continues the mobility programmes with universities in Austria, Great Britain, Hungary, Germany, Greece, Spain, China, Turkey, France, Estonia, and Japan. Under the conditions of the pandemic, VSU provides distance learning to international students as part of exchange programmes.

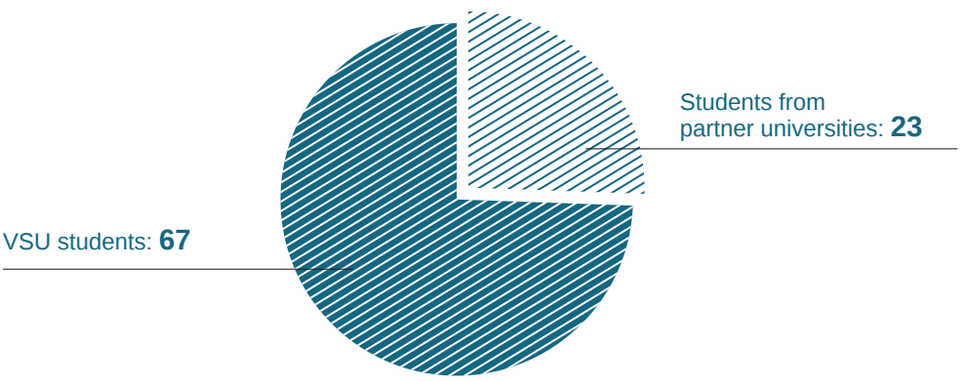
Students from the Faculty of Romance and Germanic Philology, the Faculty of Philology, the Faculty of Economics, and the Faculty of International Relations participate most actively in academic mobility programmes. The International Education Institute of VSU, the Faculty of International Relations, the Faculty of Romance and Germanic Philology, the Faculty of Computer Sciences, the Faculty of Applied Mathematics, Informatics, and Mechanics, and the Faculty of Economics are among the leaders in terms of hosting international students.

Key indicators of academic mobility in 2021:

- 190 active cooperation agreements with international partner universities from 47 countries.
- 67 students were provided training and internships by international partner universities.
- 29 lecturers and researches from VSU took part in international research and academic activities abroad.
- 23 foreign students studied at VSU under international academic mobility programmes (Fig. 7.1).
- 16 VSU students and 12 students from partner universities studied online under academic exchange programmes.
- About 70% of the VSU students who participated in the mobility programmes received scholarships and grants to study at partner universities under the Erasmus+, DAAD, Campus France, and inter-university cooperation programmes.

Figure 7.1

ACADEMIC MOBILITY OF STUDENTS



Main areas of cooperation with international higher education institutions:

- Participation of lecturers and students in scientific conferences, round table meetings, and workshops.
- Participation in projects aimed at promoting educational and scientific cooperation.
- Academic exchange.
- Advanced training.
- Implementation of joint education programmes.

In 2021, the following cooperation agreements and contracts were signed with partner universities:

- Partnership agreement with the KU Leuven (Belgium).
- Student exchange agreement with the KU Leuven (Belgium).
- Partnership agreement with the University of Bialystok (Poland).
- Partnership agreement with the University of Western Macedonia (Greece).
- International partnership agreement with the French Embassy in Russia.
- ERASMUS+ academic mobility agreement with the University of Lille (France).
- Agreement with Aristotle University of Thessaloniki (Greece) on academic exchange as part of the ERASMUS+ programme.
- Agreement with the University of Leon (Greece) on academic exchange as part of the ERASMUS+ programme.
- Agreement with the University of Gdansk (Poland) on academic exchange as part of the ERASMUS+ programme.
- Partnership agreement with Hong Kong Shue Yan University (China).
- Additional agreement on academic exchange with Hong Kong Shue Yan University (China).
- Partnership agreement with Belarus State Economic University.
- Partnership agreement with Caspian University (Kazakhstan).
- Memorandum of Understanding with the Jizzakh Branch of the National University of Uzbekistan named after Mirzo Ulugbek (Uzbekistan).
- Partnership agreement with the Tajik State Pedagogical University named after S. Aini (Tajikistan).
- Partnership agreement with the Tajik National University (Tajikistan).

INTERNATIONAL EVENTS

VSU staff members took part in 139 international events. More than 50 international events were organised by the university faculties (Table 7.1), including 24 scientific conferences, 5 summits, and 7 forums (Figure 7.2). The staff of the International Relations Office organised and participated in 26 international events.

The international forum “Public diplomacy in the dialogue between Russia and the EU”, held on 19-20 October 2021, was a particularly important event for VSU. As part of the forum, the university opened an exhibition of rare books that were returned to VSU from Germany, where they were moved out of occupied Voronezh in 1942. Guido Kemmerling, the attaché for Cultural Affairs of the Embassy of Germany in the Russian Federation, attended the exhibition opening in person, while Sergei Nechaev, Ambassador Extraordinary and Plenipotentiary of the Russian Federation to Germany took part in it by video conferencing. The forum continued with a scientific conference on “Social Communications: Dialogues Between Russia and the EU in a Risky Society”. The conference brought together leading academics in the fields of history, social philosophy, diplomacy and international relations, political science, and linguistics from VSU, Moscow State University, Moscow State Institute of International Relations, the Institute of Europe of the Russian Academy of Sciences, Primakov National Research Institute of World Economy and International Relations of the Russian Academy of Sciences, the Russian State University for the Humanities, and Tver State University. The international discussion “Ecological policy of the EU “Green Deal”: The role of Russia in the green transformation of Europe”, held on 20 October, became the key event of the forum. The event was attended by staff from the EU Delegation to the Russian Federation, the Voronezh Region’s Department of Natural Resources and Ecology of the Voronezh Region, international experts on environmental protection and climate change, and representatives of public organisations.

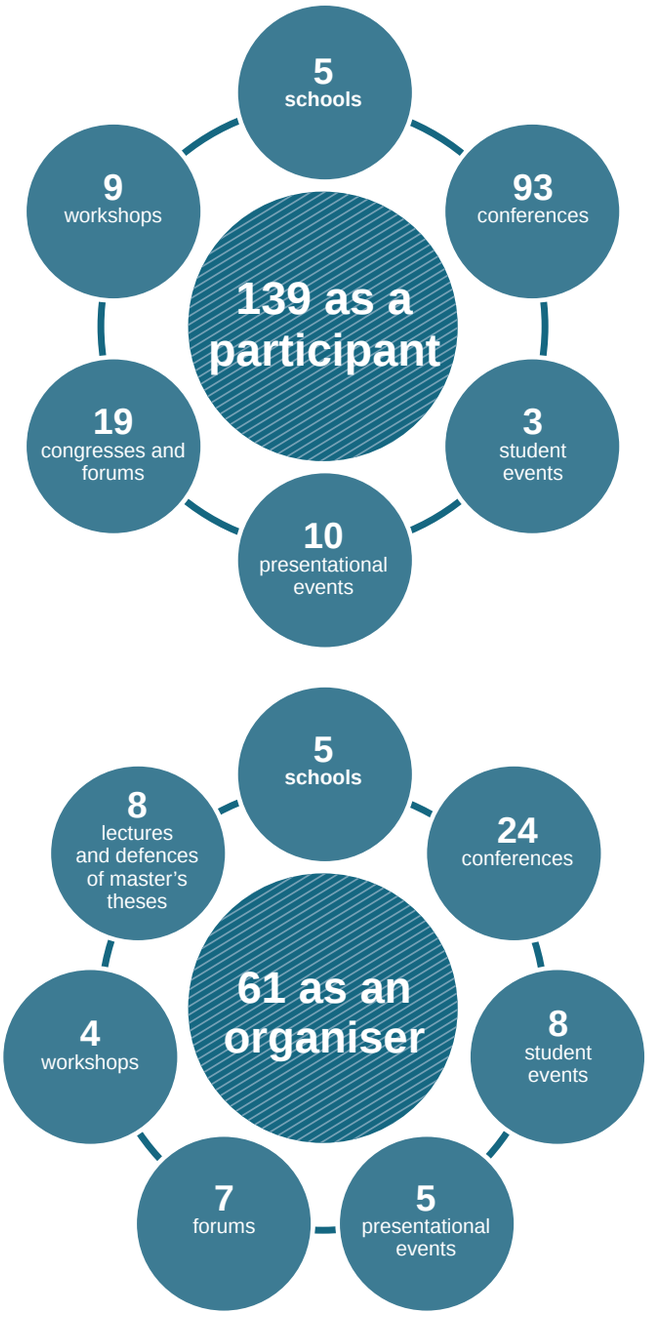
Table 7.1

THE NUMBER OF INTERNATIONAL EVENTS AT VSU FACULTIES

VSU faculties	Number of events
Faculty of Economics	13
Faculty of Romance and Germanic Philology	12
Faculty of International Relations	4
Faculty of Philology	4
Faculty of Philosophy and Psychology	4
Faculty of Computer Sciences	3
Faculty of Biomedical Sciences	3
Faculty of Applied Mathematics, Informatics, and Mechanics	3
Faculty of Mathematics	2
Faculty of Law	2
Faculty of Journalism	1
Faculty of Pharmaceutics	1
Faculty of Chemistry	1
International Education Institute	1

Figure 7.2

INTERNATIONAL EVENTS THE UNIVERSITY TOOK PART IN



7.3. INFORMATION REGARDING JOINT EDUCATION PROGRAMMES IN 2021

The university takes part in 5 network programmes with international higher educational institutions: 4 master's programmes and 1 bachelor's programme (Table 7.2). In September 2021, an agreement on the implementation of a network bachelor's programme "European Languages and World Literature" between VSU and Georg-August University of Göttingen was signed.

The university runs a joint programme in the format of a postgraduate school: professors from Martin Luther University, the University of Hamburg, and VSU hold monthly lectures, workshops, and round tables. Twice a year there is a joint discussion of research projects, where applicants are given the opportunity to review their work and share new ideas and experiences with each other. This approach to writing research papers is characterised by a combination of the traditions of the Gallic and Voronezh scientific schools, as well as the ideas and achievements of domestic and foreign linguistics. All research is focused on practical application and implementation in foreign language teaching. On 9 December, at Voronezh State University, Sofia Pospelova defended her candidate's thesis "Prosodic Features in Play Communication of Preschool Children". It was written under the joint supervision of Professor Lyudmila Velichkova from Voronezh State University and Professor Ines Bose from Martin Luther University (Halle-Wittenberg). The dissertation was supervised by the two professors as part of the Vladimir Admoni International Programme for the Support of Young Researchers in Linguistics and Speech Studies. After the defence, which was held at the Voronezh State University's Dissertation Council, and a positive decision by VAK, the candidate will be awarded a PhD in Philology and a German PhD in Philosophy.

Table 7.2

IMPLEMENTED JOINT EDUCATION PROGRAMMES

No.	Programme	Level of education	VSU subdivision	Partner universities
1	Business Communication in Economics: German	Master's degree	Faculty of Romance and Germanic Philology	Martin Luther University (Halle-Wittenberg, Germany)
2	Russian Literature in the European Context	Master's degree	Faculty of Philology	Georg-August University of Göttingen (Germany)
3	International Tourism Management	Master's degree	Faculty of Economics	University of Girona (Spain)
4	General Management	Master's degree	Business School	ISC Paris Business School (France)
5	European Languages and World Literature	Bachelor's degree	Faculty of Romance and Germanic Philology	Georg-August University of Göttingen (Germany)

7.4. IMPLEMENTATION OF INTERNATIONAL EDUCATIONAL AND RESEARCH PROJECTS

An important area of the university's activities is the development of international educational cooperation within the framework of international educational projects.

Main types of international projects:

- Organisation of academic mobility
- Modernisation of education programmes.

Main areas of educational projects:

- Computer sciences
- Social and political sciences
- International relations
- Ecology
- Jurisprudence.

In 2021, VSU took part in the implementation of 26 international projects:

- 17 projects aimed at the organisation of academic mobility.
- 2 projects aimed at the modernisation of education programmes:
  - Capacity Building in Agriculture and the Cooperation between Urban and Rural Areas for Sustainable Development of Metropolises.
  - Mobile Applications and Computer Games;
- 3 projects in the field of international relations:
  - Challenges of International Security.
  - Russia – EU: Facts and Fantasy.
  - International and National Law.
- 2 research projects:
  - Comprehensive assessment of the soils contaminated with heavy metals in the north-west of the Sichuan province".
  - Stages and problems of the reception of F. M. Dostoevsky's work in the context of Hungarian culture.

In 2021, VSU started new projects:

- A joint educational project on "Storytelling and Digital Revolution" in the field of media studies with the University of Loughborough (Great Britain). The project is supported by the Department of Culture and Education of the British Embassy in Moscow.
- The project "Green Campus VSU: On the green track", aimed at the development of ecological awareness and applying environmental technologies at the university. The project is supported by the Delegation of the European Union in the Russian Federation. The project envisages a set of educational activities in the field of environmental protection involving scientists from European universities that are leaders in the field of environmental protection and climate research. As a result of cooperation with international partner universities, a concept for a green and eco-friendly university campus will be proposed.

7.5. INFORMATION ON THE INTERNATIONAL STUDENT POPULATION AND ITS DYNAMICS

INFORMATION REGARDING TARGET TRAINING OF STUDENTS IN VSU

Table 7.3

TOTAL NUMBER OF FOREIGN STUDENTS

No.	Indicator	Number of students	
		2020	2021
1	Total number of foreign residents enrolled in bachelor's, specialist's, and master's degree programmes in VSU	1015	1082
2	Total number of people studying in the framework of the Decree of the Russian Government regarding the education of foreign residents, including the programmes:	199	176
	Bachelor's degree	138	125
	Specialist's degree	21	27
	Master's degree	40	24
3	Total number of foreign residents studying under further education programmes aimed at preparing foreign residents and stateless individuals for professional education programmes in the Russian language.	100 (46 state-funded, 54 fee-paying)	127 (60 state-funded, 67 fee-paying)

Graduated in 2021:

- Bachelor's degree students: 47 people
- Master's degree students: 55 people
- Specialist's degree students: 5 people.

Total: 107 people (21 honours degrees).

In 2021, 163 first year students enrolled in bachelor's and master's degree programmes (45 state-funded, 118 fee-paying)

18 students enrolled in postgraduate studies (7 state-funded, 11 fee-paying).

127 students enrolled in pre-university training (from 41 foreign states).

Key educational objectives in the implementation of pre-university training at the International Education Institute under the COVID-19 limitations:

- To develop a communicative language environment by electronic means.
- To ensure essential remote online interaction of the students with the teachers and other students.
- To provide access to extensive electronic educational resources developed at the International Education Institute for students in Russia and abroad.

During 2020-2021, several basic e-learning courses were developed and implemented, their working titles are:

- “Russian as a Foreign Language. Level A1.” (9 topics and 44 lessons)
- Russian as a Foreign Language. Level A2–B1.” (9 topics, 55 lessons, and midterm examination materials).

The courses are available on the VSU web source “Electronic University” (based on the MOODLE online platform) The courses:

- are interactive,
- provide distance learning imitating the traditional contact learning,
- include online classes via the TrueConf video conferencing software,
- include self-study on the VSU portal “Electronic University” and the “Electronic Pre-University” platform of the national “Education in Russian” source developed by Pushkin State Russian Language Institute.

The developed electronic courses meet the following requirements:

- the federal requirements for the elementary level of Russian as a foreign language (Russian as a Foreign Language. Level A1),
- the federal requirements for the basic level of Russian as a foreign language (Russian as a Foreign Language. Level A2–B1),
- partially meet the requirements for the first certification level of Russian as a foreign language (General Knowledge. Professional Module).

Under the conditions of distance learning, the following activities were organised:

- **classes with a teacher** (612 hours),
- **independent work** (800 hours),
- **the weekly workload for students,** almost equivalent to the academic workload during a full-time group study.

A variety of e-learning and monitoring materials were provided to ensure a proper educational process. The materials were developed at the International Education Institute of VSU. They are based on the university's own software platforms, as well as on external Internet resources. **This enables students to work effectively independently in mixed and distance learning formats.**

The electronic teaching materials on general science disciplines were developed for the programmes on the specialised federal open source "Electronic Pre-University" available on the "Education in Russian" web portal of the Ministry of Science and Higher Education of the Russian Federation.

Measures were taken to integrate the teaching methods of the Russian language as a foreign language and general scientific disciplines.

All lecturers (including teachers of general sciences) involved in the implementation of supplementary general education programmes are full-time employees of the International Education Institute of VSU. They have linguistic, methodological, and multicultural competences, which are essential for the effective teaching of foreigners.

ONLINE PRE-UNIVERSITY OF LEADING UNIVERSITIES IN RUSSIA

In the summer of 2021, an agreement on the development of the electronic pre-university for foreign citizens was signed between Pushkin State Russian Language Institute, Voronezh State University (the initiators), Peter the Great St. Petersburg Polytechnic University, the National Research Tomsk Polytechnic University, and Moscow State Technological University "STANKIN". The pre-university will be part of the relevant structural units of the five universities. The agreement aims to enhance the development of e-learning courses for the federal portal "Education in Russian".

For international students, an e-learning course for postgraduates on Russian as a foreign language and an e-learning course for students "Foreign Language (Russian)" in four parts are being developed:

- Section I for 1st year bachelor's and specialist's degree students.
- Section II for 2nd year bachelor's and specialist's degree students.
- Section III for master's degree students.
- Section IV for 3rd and 4th year bachelor's degree students.

They all have a **shared grammar part** and include **modular components** (specialised texts based on the discipline textbooks).

For all categories of learners, additional grammar topics and exercises are provided for self-study. This element of the course is under development. The students do the tasks as soon as they are available on the platform.

The lecturers have been working on the course components during the semester and will continue the project.

INFORMATION REGARDING INTERCULTURAL EVENTS

The youth policy involved the following types of activities aimed at international students:

- Building a favourable environment for the balanced development of young people.
- Faster social, cultural, and academic adaptation.
- Learning more about Russia, its history, culture, and traditions.
- Participation in social, cultural, and sport life of VSU and the region.
- Holding large high-profile federal and regional events.

In 2021, under the conditions of the COVID-19 pandemic, the International Education Institute organised 17 high-profile socio-political and cultural online events for international and Russian students and residents of Voronezh.

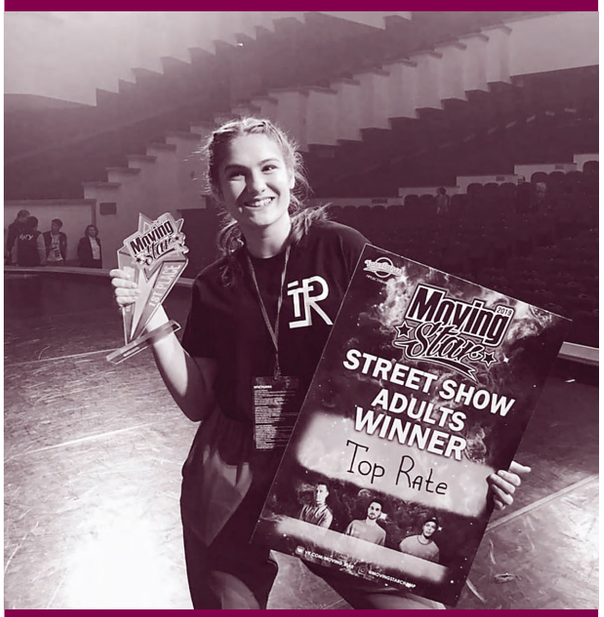
7.6. BRIEF SUMMARY OF THE MAIN ACHIEVEMENTS IN 2021

- The total number of foreign students in all forms of study in 2021 amounted to 1117 people.
- An electronic pre-university faculty was developed for foreign students, the project involves 5 major universities across Russia.
- The youth policy involved the following types of activities aimed at international students: Building a favourable environment for the balanced development of young people; faster social, cultural, and academic adaptation; learning more about Russia, its history, culture, traditions; participation in social, cultural, and sport life of VSU and the region; holding large high-profile federal and regional events.
- 190 collaboration agreements between VSU and international partner universities.
- The university implements 26 international educational projects in cooperation with partner universities.

- The Dieter Heinze Student Scholarship was established. It allows talented students to study at German partner universities.
- The regulatory framework of VSU was modernised, and the following provisions have been amended and changed: “On the procedure for receiving international delegations”, “On the selection of students of Voronezh State University for participation in international academic exchange programmes”, “On business trips of employees of Voronezh State University”, “On the procedure for admission of foreign students to Voronezh State University as part of international cooperation”.

OBJECTIVES OF VSU IN THE AREA OF INTERNATIONAL COOPERATION IN 2022:

- To develop network education programmes with international universities.
- To develop a regulatory framework governing the implementation of international networking programmes, a university-wide system for recording the mobility of students and academic staff.
- To increase the number of international students.
- To enhance the academic mobility of academic staff, students, and researchers.
- To develop the programmes for international summer schools.
- To develop international educational and research projects and ensure their successful implementation by the university’s subdivisions.



STUDENT AFFAIRS AND SOCIAL DEVELOPMENT

8

STUDENT AFFAIRS AND SOCIAL DEVELOPMENT

O. V. Grishaev,
Vice-Rector for Student Affairs and Social Development

8.1. MAIN OBJECTIVES IN THE FIELD OF STUDENT AFFAIRS AND SOCIAL DEVELOPMENT IN 2021

In 2021, the following objectives were accomplished in the field of student affairs and social development:

- The university developed and approved the student affairs programme. By 1 September 2021, the programme has been incorporated into all major education programmes.
- The number of international students involved in educational and cultural activities increased.
- In 2021, the policy of civic and patriotic education was strengthened, focusing on the civic mindedness of youth and the prevention of extremism and terrorism.
- There were more activities aimed at the promotion of sport and a healthy lifestyle.

Due to the complicated situation (compared to 2020) due to the COVID-19 pandemic, the main goals and objectives of social work were:

- To carry out a set of preventive measures to prevent the spread of the coronavirus.
- To purchase and distribute personal protective equipment to employees and students.
- To open a vaccination centre at the university (with compulsory examination by a doctor).
- To open a PCR-testing station.
- To provide social security and psychological support to the university's students.

- To organise summer holidays for students and staff, taking into account the epidemiologic situation.
- To control the payment of bursaries, allowances, and other types of financial aid to students (including the payment of financial aid to students during the lockdown).
- To enhance the pedagogical and social activities in the university's dormitories.

In September, the psychological and sociological service of the university was reactivated. It achieved the following results:

- A questionnaire survey, in which more than 1,700 students took part.
- Individual consultations with seven students, four of whom were referred to a neuropsychology centre for further examination.

8.2. ORGANISATION OF SUMMER HOLIDAYS FOR VSU STUDENTS AND STAFF IN 2021

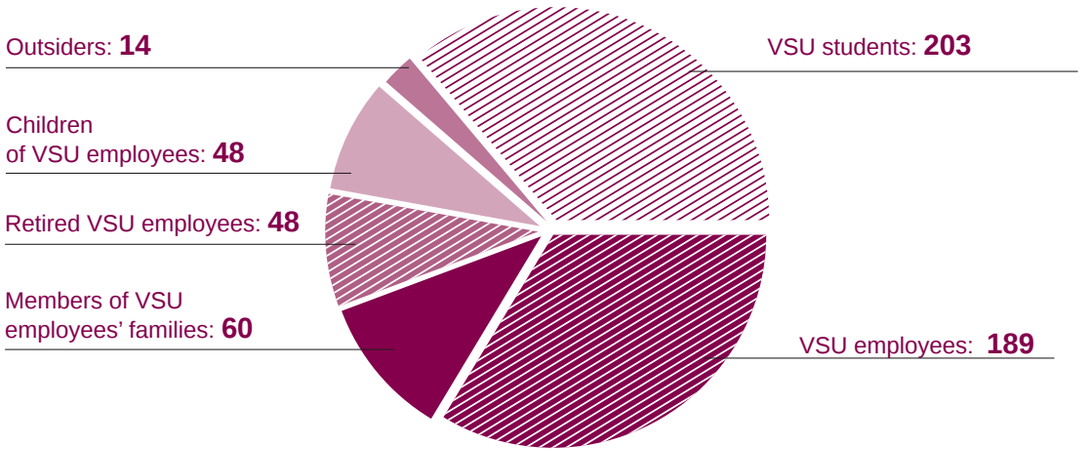
Taking into account the restrictive measures related to the spread of COVID-19, summer holidays and recreation for VSU staff members and students were organised at the Venevitinovo scientific and educational, sports and fitness complex and also at the Black Sea coast (Sochi and the Republic of Crimea).

In summer 2021, 722 university students spent holidays at the Black Sea coast (Rosa Khutor, the Republic of Crimea).

In total, 562 people went on holiday to the Venevitinovo recreation facility, including 189 VSU employees and 60 members of their families, 48 retired VSU employees, 48 children of VSU employees, 14 other visitors who paid the full price, and 203 students of the university (Fig. 8.1).

Figure 8.1

RECREATION AT THE VENEVITINOVO SPORT AND FITNESS COMPLEX



8.3. FINANCIAL AID FOR VSU STUDENTS AND STAFF IN 2021

Many students received financial aid and financial support during the lockdown.

Importantly, the distribution and expenditure of monetary funds that affected the interests of students (scholarships and other bursaries, cultural events, sport, and recreation) was supervised by faculty scholarship committees and the trade union organisation of VSU students.

In 2021, the amount of money spent on financial aid to undergraduate and postgraduate students totalled more than 43,000,000 roubles.

The following one-time payments were made:

- In accordance with clause 5.8.2 of the Collective Agreement, payments totalling 4,700,182.95 roubles were made upon retirement.
- 30% of the basic salary to employees for a total of 17,849,978.74 roubles.
- 50% of the basic salary to employees for a total of 29,886,953.9 roubles.

Many employees got an education discount for their children totalling 2,270,670 roubles.

In 2021, 378 current and retired employees of VSU received financial aid which amounted to 2,253,216 roubles. Moreover, material aid in the amount of 2,000 roubles was paid to 39 retired VSU employees living alone, dedicated to the International Day of Older Persons.

8.4. STUDENTS' BURSARIES

It should be noted that the university administration, together with the students' trade union organisation, provides social support to the university's students. Based on the Regulations Regarding Scholarships and Other Forms of Financial Aid for Undergraduate, Postgraduate, and Postdoctoral Students of Voronezh State University, the Social Development Department pursues a graded social policy with respect to VSU students in need of help.

In 2021, 1352 students received bursaries for a total of 30,846,739.18 roubles.

Extra bursaries, scholarships for academic results, excellence in research, social, cultural activity, and sports are paid to students monthly.

8.5. SUMMARY OF EVENTS OF THE SUBDIVISIONS OF THE JOINT STUDENTS' BOARD OF THE UNIVERSITY FOR 2021

In 2021, students adapted to the constraints of the pandemic, which allowed the university to achieve higher rates of student engagement and higher levels of organisation compared to the previous reporting period. New ways of organising events and implementing student projects online made it possible to plan events in advance and widened the opportunities for participation.

Speaking about student communities (Table 8.1), the activities of the VSU Volunteer Club should be mentioned. Under the conditions of the spread of COVID-19, volunteers helped elderly people as part of the national public assistance campaign "We are Together", supported the Volunteer Resource Centre of the Voronezh Region, and worked in polyclinics and at call centres' helplines.

VSU student teams also performed efficiently. Over the past year their number increased to 13. Over 700 students were employed as part of the student teams during the summer holidays.

Table 8.1

EVENTS HELD BY THE SUBDIVISIONS OF THE JOINT STUDENTS' BOARD OF VSU

Area	Event	Status	Form	Dates	Number of Participants
Research and education	Your Move National Student Competition	National	Mixed	8 April 2021–12 October 2021	9
	Summer School of the Tournament of Three Sciences	National	Online	5 July 2021–10 July 2021	76
	Baikal Forum	National	Mixed	9 August 2021–14 August 2021	2
Career and specialised activities	Pancake cooking competition by VSU student teams	University	Personal attendance	5 March 2021	500
	VSU Career Day	University	Personal attendance	28 April 2021	200
	RIF Voronezh XZ	Regional	Personal attendance	10 September 2021	700
	LikenGo	University	Mixed	15 October 2021	80
	All-Russia Convention of Student Teams	National	Personal attendance	12 November 2021	10
Activities aimed at international students	Buddy Club volunteer recruitment	International	Mixed	29 September 2021	78
	Welcome Party	International	Online	16 October 2021	40
	Cinema Club	International	Online	29 October 2021	28
	Halloween Quest	International	Online	31 October 2021	10
	Language Tandem	International	Online	7 November 2021	26
	International Cuisine Quiz	International	Online	13 November 2021	15
	New Year Celebration	International	Online	30 December 2021	200
Student self-governance	Visiting the Students' Board of the Faculty of Applied Mathematics, Informatics, and Mechanics	University	Personal attendance	2 February 2021	20
	Project X	University	Mixed	9 February 2021–9 April 2021	50
	Humanitarians and Techies	University	Personal attendance	13 February 2021	50
	Visiting the Students' Board of the Faculty of Physics	University	Personal attendance	22 March 2021	20
	Visiting the Students' Board of the Faculty of Mathematics	University	Personal attendance	20 April 2021	20
	Cup 17 team game	University	Personal attendance	15 May 2021	170
	Visiting the Students' Board of the Faculty of Geology	University	Personal attendance	24 May 2021	20
	Best student self-governance competition	Regional	Online	23 June 2021–10 September 2021	1 team (8 members)
	VSU Photocross	University	Mixed	12 September 2021	70
	Intensive course on student activities	University	Mixed	21 September 2021	100
	Competition for the Best Youth Authorities in the Voronezh Region	Regional	Online	24 September 2021–23 October 2021	1 team (6 members)
	Visiting the Students' Board of the Faculty of Pharmaceutics	University	Online	22 October 2021	20
	Halloween costume party	University	Online	3 November 2021	13
	Visiting the Students' Board of the Faculty of Biomedical Sciences	University	Personal attendance	5 December 2021	20

8.6. OVERVIEW OF STUDENT COMPETITIONS

Lectures and workshops on the basics of original genre, dance production, concert sound and light design, acting, vocal, directing, and social media marketing (SMM) were organised in a mixed format (in person and online). They were held to increase the level of aesthetic education and develop the organisational skills of students involved in the implementation of cultural and creative activities (Table 8.2)

From 1 to 20 March, the Students' Spring festival took place in VSU. More than 900 students took part in it. The best creative performances of the faculties were assessed and presented in the categories: Original Genre, Media, Dancing, Singing and Music, and Theatre. 120 university's students took part in the regional festival "Students' Spring – Youth Creativity" and took first place. Moreover, the team of 35 VSU's students won the national stage of the Students' Spring festival in Nizhny Novgorod.

Table 8.2

STUDENT COMPETITIONS

Name of Event	Status	Form	Dates	Venue	Number of Participants
Exhibition of paintings dedicated to the Day of Russian Science	University	Personal attendance	8 February 2021–19 February 2021	Voronezh	2,500
Lectures in the main areas of creative activities	University	Personal attendance	8 February 2021–13 February 2021	Voronezh	320
Students' Spring art festival	University	Personal attendance	1 March 2021–21 March 2021	Voronezh	4,500
Maslenitsa festival	University	Personal attendance	12 March 2021	Voronezh	1,500
All-Russian Student Marathon 2021	National	Personal attendance	1 April 2021–5 April 2021	Krasnodar Territory, Sochi	70
Pushka Dance Championship	National	Personal attendance	17 April 2021–18 April 2021	Tula	22
Students' Spring of the Voronezh Region	Regional	Personal attendance	19 April 2021–29 April 2021	Voronezh	120
Volga Dance Championship	National	Personal attendance	8 May 2021–9 May 2021	Nizhny Novgorod	12
Moving Star festival	National	Personal attendance	13 May 2021–15 May 2021	Yaroslavl	23
Russian Students' Spring	National	Personal attendance	15 May 2021–20 May 2021	Nizhny Novgorod	29
Art Open Dance Championship	National	Personal attendance	21 May 2021–22 May 2021	Moscow	22
Fame your Choreo festival	National	Personal attendance	21 May 2021–23 May 2021	Moscow	23
Participation in the project "Novye Tantsy" on TNT channel	National	Personal attendance	15 July 2021–25 July 2021	Moscow	12
Knowledge Day Concert	University	Personal attendance	1 September 2021	Voronezh	2,500
First Year Student festival	University	Online	9 October 2021–27 November 2021	Voronezh	46,000
Educational lectures	University	Online	15 November 2021–26 November 2021	Voronezh	2,926
In Motion festival	National	Personal attendance	20 November 2021–23 November 2021	Nizhny Novgorod	10
Project 818 dancing festival	National	Personal attendance	3 December 2021– 5 December 2021	Moscow	10

8.7. BRIEF OVERVIEW OF THE EVENTS HELD TO DEVELOP PATRIOTISM AND CIVIC MINDEDNESS

Table 8.3

THE EVENTS HELD TO DEVELOP PATRIOTISM AND CIVIC MINDEDNESS

Name of Event	Status	Form	Dates	Venue	Number of Participants
Rally dedicated to the day of the liberation of Voronezh from the Nazi invaders	University	Personal attendance	25 January 2021	Voronezh	100
Participation in the round table on Internet Security	Regional	Online	18 February 2021	VK social media	700
Participation in the Box of Wisdom discussion platform	Municipal	Online	2 March 2021	Voronezh	10
Monitoring of public opinion on extremism, terrorist ideology, and other information threats in the educational environment	National	Online	1 April 2021–30 April 2021	National Centre for Information Counteraction to Terrorism and Extremism in the Educational Environment and on the Internet	527
National stage of the Patriotic Rap contest	National	Personal attendance	7 April 2021	Voronezh	10
Day of United Action	University	Personal attendance	19 April 2021	Voronezh	602
Lecture for combating extremism and terrorism among students.	University	Personal attendance	20 April 2021	Voronezh	300
Victory Day meeting	University	Personal attendance	7 May 2021	Voronezh	150
Immortal Regiment interactive exhibition	University	Online	9 May 2021	VK social media	350
Rally dedicated to the Day of Sorrow and Remembrance of Victims of War	University	Personal attendance	22 June 2021	Voronezh	150
Rally dedicated to the Day of Solidarity in the Fight against Terrorism	University	Personal attendance	3 September 2021	Voronezh	100
Preventive talks by group supervisors with first-year students	University	Personal attendance	3 September 2021–30 September 2021	Voronezh	3,500
Participation in the student meeting “Be Worthy of the Memory of the Fallen!”	National	Personal attendance	17 November 2021–20 November 2021	Volgograd	6

8.8. SPORTS AND A HEALTHY LIFESTYLE

All sports activities in 2021 were carried out with the assistance of the Department of Physical Education and Sports and the VSU Sports Club. Due to the restrictions on holding sports tournaments in person there were some difficulties in this part of the educational work. Nevertheless, several major sporting events were held over the past year.

For example, in February-March 2021 the VSU students' sports club "Khitschnye Bobry" (Rapacious Beavers) held the university stage of the ASSC Championship in 13 sports disciplines. As a result, the entire VSU team advanced to the national stage of the championship in Kazan and won prizes there. In autumn 2021, 16 students from VSU became members of the national team that took part in the international competition in Gomel (Belarus). The athletes represented Russia, the Voronezh Region, and VSU there. Three of our students were among the top 15 managers of the championship for individual disciplines based on the results of the university stage of the ASSC Championship.

From June to September, the VSU students' sports club "Khitschnye Bobry" implemented the ASSC project "From the ASSC student competition to the "Ready for Labour and Defence" badge of honour". More than 1,500 students took part in the project. VSU was the first university to propose a new interesting format for student sports activities. The university created the video "Exercising with the Rector", which was viewed by more than 30,000 people, and more than 10 universities supported the challenge.

According to the results of the "Best Students' Sports Club" competition, the "Khitschnye Bobry" club took third place in the category "Best University Holding the ASSC Championship 2020-2021". The club was among the top three clubs holding the "From the ASSC student competition to the "Ready for Labour and Defence" badge of honour" project.

In 2021, the traditional Universiade of the Voronezh Region was held in 28 disciplines. More than 2,500 students took part in it. VSU won prizes in 18 sports disciplines. Overall, it took second place among all the universities in Voronezh.

The largest sporting event in 2021 was the Ready for Labour and Defence festival, which took place in September. Over 3,700 students took part in the festival. More than 36% of them achieved gold, silver, or bronze Ready for Labour and Defence badges.

Moreover, there were some achievements in the area of cybersports. During the reporting period the activists of this area held three university tournaments (more than 200 participants) and one municipal tournament (more than 200 participants). The VSU team won first place in the municipal stage of the All-Russian Cybersports Student League. Students at VSU also became winners and awardees in competitions at various levels, including the national level.

8.9. INCLUSIVE EDUCATION AT THE UNIVERSITY

The university systematically works on creating and maintaining a comfortable environment for applicants and students with disabilities and special needs.

Currently, Voronezh State University has 153 students with disabilities and special needs. There are 10 students with visual disabilities (2 of them with special needs), 2 students with hearing disabilities (none of them with special needs), 17 students with musculoskeletal disorders (including 3 people with special needs), 25 students with somatic diseases, and 99 people with no category.

Students with disabilities receive social, psychological, and pedagogical support over the whole training period. Under the conditions of the pandemic and distance learning, this aspect has become even more relevant.

A social network group for disabled students of Voronezh State University was created (Inclusive Education Centre at Voronezh State University).

The pandemic did not reduce the number of events. The format has changed, but the relevance of interaction has multiplied during this period.

Throughout the academic year, online conferences and workshops were held for the university staff, students, and applicants in order to obtain insights into the psychological and physiological characteristics of students with disabilities, including those with special needs, the specifics of admission, and the peculiarities of teaching students of various nosological groups.

The competition “On your Way to your Career 2021” was held in Voronezh in May. It is a unique project for students and graduates with disabilities. 1st place went to a VSU student with a disability (Faculty of Journalism), 3rd place was also taken by a VSU student (Faculty of Computer Sciences). All the other finalists from VSU were honoured in the categories emphasising their business and personal qualities. The winners and finalists received valuable prizes and job or internship offers.

In September, the 6th Voronezh Abilympix Championship for people with disabilities and special needs was held. The championship includes a competition, as well as a business, cultural, and career guidance programme. At the competition, VSU was represented by 7 students with disabilities and one expert in Law, Economics and Accounting, and Social Work. The VSU students took all the prizes in the Jurisprudence programme.

Another regional programme, Pharmacy, is planned for 2022. This programme is also to be prepared by Voronezh State University.

In October, a training session on awareness of disability was organised. In a live communication format, common stereotypes towards people with disabilities were discussed, the medical and social approaches to the issue of disability were analysed, and the terminology and etiquette of service provision to people with disabilities was clarified.

In December, the employees of VSU (18 people) attended advanced training under the programme “Special Features of Interaction with Disabled People and People with Special Needs during the Educational and Onsite Practical Trainings” held by Bauman Moscow State Technical University.

Interaction with the inclusive education system participants shows positive dynamics in the formation of a tolerant attitude towards people with disabilities and their inclusion in society.

However, it should be noted that there are problems with the technical support and maintenance of special technical and software tools for teaching persons with disabilities and special needs.

The VSU website has a special Accessible Environment section (URL: http://www.vsu.ru/sveden/ovz/) with the information about the availability of the environment required for disabled people, types of education support, availability of special educational hardware and software, barrier-free environment, etc.

8.10. MAIN ACHIEVEMENTS OF 2021

Culture and student creativity:

- 1st team place, 1st place in the creative programme, 1st place in the sports programme, and 2nd place in the intellectual programme at the youth festival “All-Russian Student Marathon”.
- 1st place in the regional festival “Students’ Spring of the Voronezh Region”.
- 1st place in the national festival “Russian Students’ Spring”:
  - Nomination “Original Performance”: “Eternal fight”, a special prize for a creative approach to the classical genre.
  - Nomination “Street dance”: “One against all”, a first degree laureate.
  - Nomination “Pop singing” (solo): the song “This is me”, a second degree laureate.
  - Nomination “Pop singing” (bands): the song “Hallelujah”, a first degree laureate.

Public activity:

- Elizaveta Zotova, a student of the Faculty of Economics, won 1st place in the finals of the national project “Your Move” and received a grant of 1,000,000 roubles to implement her own start-up.

Physical education and sports:

- 1st place in the municipal stage of the All-Russia Cybersports Student League.
- 2nd place in the Voronezh Region Universiade.
- 3rd place in the nomination “Best university holding the ASSC Championship 2020-2021”.
- National students’ sports festival “ASSC.FEST”:
  - 1st team place in table tennis.
  - 1st and 3rd places in the individual table tennis championship among women.
  - 3rd place in the individual table tennis championship among men.
  - 3rd place in the individual badminton championship among men.
  - 3rd place in the individual chess championship among women.

OPERATION AND CONSTRUCTION OF FACILITIES

9

OPERATION AND CONSTRUCTION OF FACILITIES

N. I. Bryantsev,
Vice-Rector for Facilities and Capital Development

9.1. VSU MAJOR BUILDING OPERATIONS AND CONSTRUCTION GOALS FOR 2021

- To maintain and develop the university's property assets.
- To maintain and operate facilities in accordance with the requirements of technical documentation, laws, and regulations of the Russian Federation.
- To provide the infrastructure for educational activities, and to maintain the normal operation of utility systems: electricity, gas, heat, water supply, and the system for wastewater.
- To create a safe learning environment, ensuring the health of the students and employees of the university, and to monitor compliance with industrial safety requirements in hazardous production areas.
- To render transport services to support educational, social, and business activities.

9.2. ACHIEVEMENT OF GOALS REGARDING THE MAINTENANCE AND DEVELOPMENT OF THE UNIVERSITY'S PROPERTY ASSETS

In order to create appropriate conditions for educational activities, major and minor repairs to the university's property assets were carried out. At the expense of extra-budgetary funds, the building structures were surveyed and specification documents were prepared for the university's property subject to major repairs (university buildings No. 1, 1a, 2, 4, 5, 6, 8, and 9; dormitories No. 2, 4, 5, and 9). The interior design concept for the co-working area in university building No. 3 was developed. Supply and exhaust ventilation systems in the swimming pool were cleaned and maintained. The pipes and stop valves of the heat carrier inlet at the central heating station and the heat unit at 40a/1 Kholzunova St. were replaced.

Based on the data from periodic inspections of the technical condition of the property assets, taking into account the significant number of requests from faculty deans and university staff for the repair of classrooms and housing, in the reporting year, specialists of the VSU Capital Construction and Production Technology Department developed a repair plan for the current year and the subsequent (three-year) period. A large amount of project documentation was prepared for all repair work for a three-year period. It includes the capital repair of the canteen in building No. 2, repair of residential premises of the Nickel training base in the Republic of Adygea, capital repair of the premises of the ski lodge, repair of the lighting of the main university building facade, repair of the power supply and ventilation systems of the canteen at the main building, capital repairs to the roof of the annex (the Department of Soil Science) in university building No. 3, and other work. The total cost is more than 258 million roubles.

The main priority of our work is to create appropriate conditions for educational activities and comfortable living conditions for students and teachers.

LIST OF COMPLETED MAJOR AND MINOR REPAIR WORKS

At the expense of budgetary funds, the following major repairs were carried out:

- Major repairs to the roof and premises of university building No. 6, for a total of 4,569,347.93 roubles.
- Major repairs to block 1 and block 3, right and left sides of the showers and isolation ward at block 3, right side (32 rooms) on four floors of dormitory No. 5, for a total of 17,669,175.6 roubles.
- Major repair to the roof of university building No. 4, for a total of 1,947,775.2 roubles.
- Major repairs to the premises of the main university building (rooms No. 69, 258, 322, 366, and the VSU History Museum), for a total of 1,590,392.4 roubles.
- Major repair to the facade of university building No. 9, for a total of 5,229,823.67 roubles.
- Major repair to dormitory No. 4, for a total of 3,674,791.6 roubles.
- Major repairs to the premises of university building No. 5, for a total of 6,311,092.05 roubles.
- Major repairs to the entrance of university building No. 8, for a total of 992,347.83 roubles.
- Major repairs to 12 dorm rooms, halls of the 2nd, 3rd, and 4th floors, a deck on the 4th floor of dormitory No. 2, for a total of 1,861,785.96 roubles.
- Major repairs to the roof of university building No. 1a, for a total of 1,649,013.96 roubles.

In the main university building, classrooms No. 46a, 46b, 48, 69, 172, 236, 238, 258, 320, 321, 322, and 366, and the VSU History Museum were repaired (Fig. 9.1–9.3).

Figure 9.1

ROOMS 46A AND 46B

Figure 9.2

ROOM 258

Figure 9.3

HISTORY MUSEUM

In university building No. 1a, the roof and classrooms No. 193, 195, 195a, 382, 383, and 478a were repaired (Fig. 9.4).

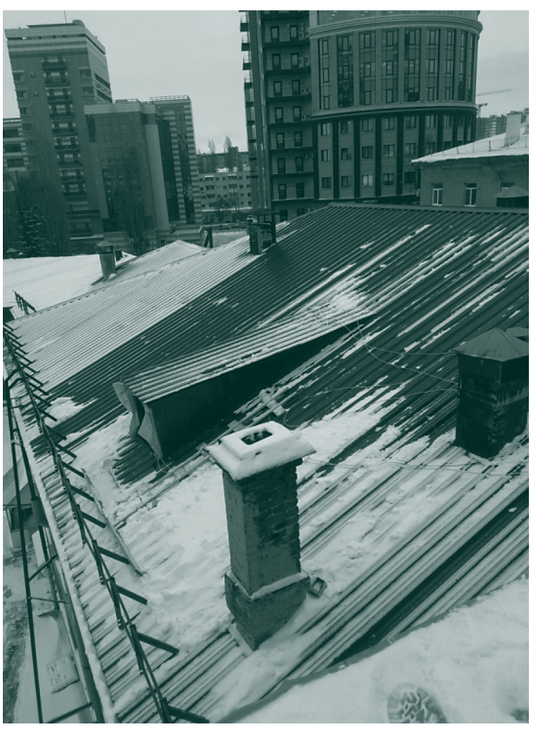
Figure 9.4

THE ROOF OF UNIVERSITY BUILDING NO. 1A

Classrooms No. 12, 15, 16, and 406 of university building No. 3 were repaired, the roof of the extension to university building No. 4 was overhauled (Fig. 9.5).

Figure 9.5

THE ROOF OF UNIVERSITY BUILDING NO. 4



Classrooms No. 104, 105, 106a, 106b, 110, 111, 112, 113, 116, 118, 119, 211, 212, 213, 214, 215, 301, 302, 303, 314, the hall, and corridors were repaired in university building No. 5 (Fig. 9.6).

Figure 9.6

CLASSROOMS NO. 111 AND NO. 302

Classroom No. 207 was repaired in university building No. 5a, the roof and the concert hall dressing rooms of university building No. 6 were overhauled (Fig. 9.7, 9.8).

Figure 9.7

THE ROOF OF UNIVERSITY BUILDING NO. 6

Figure 9.8

CONCERT HALL DRESSING ROOMS IN UNIVERSITY BUILDING NO. 6

In university building No. 8, the entrance was overhauled. In university building No. 9, the facade was overhauled. The hall and dorm rooms were repaired in dormitory No. 2. The shower rooms, entrance, hall, and kitchen were repaired in dormitory No. 4, and dorm rooms, shower rooms, and the isolation ward were repaired in dormitory No. 5.

With the sponsorship of the university partners, high-quality major repairs were carried out in classrooms No. 227 and 329 of the main university building, classrooms No. 293, 297, and 385 of university building No. 1a, and in classroom No. 201 of university building No. 5 (total area of 347.3 m²).

In 2021, 1735 m² of premises were repaired (plastered, puttied, and painted), 248 m² of Armstrong ceiling tiles were replaced, 294 m² of ceilings were whitewashed and painted, 300 m² of floors and doors were varnished, 638 rm of entrance steps were concreted and painted, 40 rm of fence were constructed and fitted, 88 rm of perimeter paving were repaired, 123 m² of building facades were repaired, 55 benches were painted, 3 window glass units were replaced, 90 rm of fence were painted, 392 locks were repaired or replaced, 221 air conditioners were repaired and maintained, 340 rm of heating pipes were replaced, 15 heating valves were replaced, 299 water taps were replaced, 653 rm of electric wiring were replaced or repaired, 216 toilet cistern mechanisms were replaced, and 575 sockets, switches, and circuit breakers were replaced.

Boiler rooms No. 1 and No. 2 were prepared for the 2021-2022 heating season. In the boiler room of the main building, a KTS-2 steel boiler was replaced. These works totalled 803 thousand roubles. The renovation was carried out by a specialised organisation, OOO TEKHNOGAZSERVIS.

Chimneys were inspected in boiler rooms No. 1 and No. 2 at a cost of 29.8 thousand roubles.

A large amount of work was performed with regard to repairing the heating system in the university buildings: in accordance with technical regulation, hydraulic and pneumatic tests of pipelines were performed, including the cleaning of the internal heating systems and units of university buildings (certificates of readiness for heating period were issued and approved).

Following the energy saving programme, the university carried out electrical works to replace 547 lamps with energy saving LED lamps and 4567 incandescent lamps with LED lamps. 11 fluorescent lamps with light on/off control sensors and 27 emergency lighting fixtures were installed. 3 electricity meters and 12 heating radiators were replaced. 27 LED spotlights were installed to restore the lighting.

Electrical works included the maintaining of substations, testing and measurement of the university's power units, repairs to the power cable of the vegetable store and ski lodge, reconstruction of street lighting with replacement of electric cable (70 rm) and LED spotlights (10 pcs). Moreover, the ventilation systems were restored (80 rm).

The Energy Saving Programme for 2022–2024 was approved.

9.3. OVERVIEW OF WORK PERFORMED BY THE TRANSPORTATION DEPARTMENT

Staff members of the Transportation Department carried out a significant amount of work (Table 9.1).

Transport services were provided upon request from the university's structural units.

Table 9.1

TRANSPORTATION

No.	Work item	2020	2021
1	Transportation for conferences (pcs)	3	5
2	Number of passengers (people)	1,700	160,170
3	Cargo turnover (tonnes)	7.3	41.3
4	Distance driven (thousand km)	89.7	151.2
5	Fuel consumption (l):		
5.1	– A-95 petrol	18,480	22,036
5.2	– A-92 petrol	10,903	12,908
5.3	– diesel	14,800	42,999
5.4	– liquefied gas	2,900	2,800

9.4. MAJOR REPAIRS AND MAINTENANCE FINANCING BY SOURCE OF FUNDING

Figure 9.9

SITES FINANCED IN 2021, THOUSAND ROUBLES

Sites of FSFEI HE VSU, total: 51,007

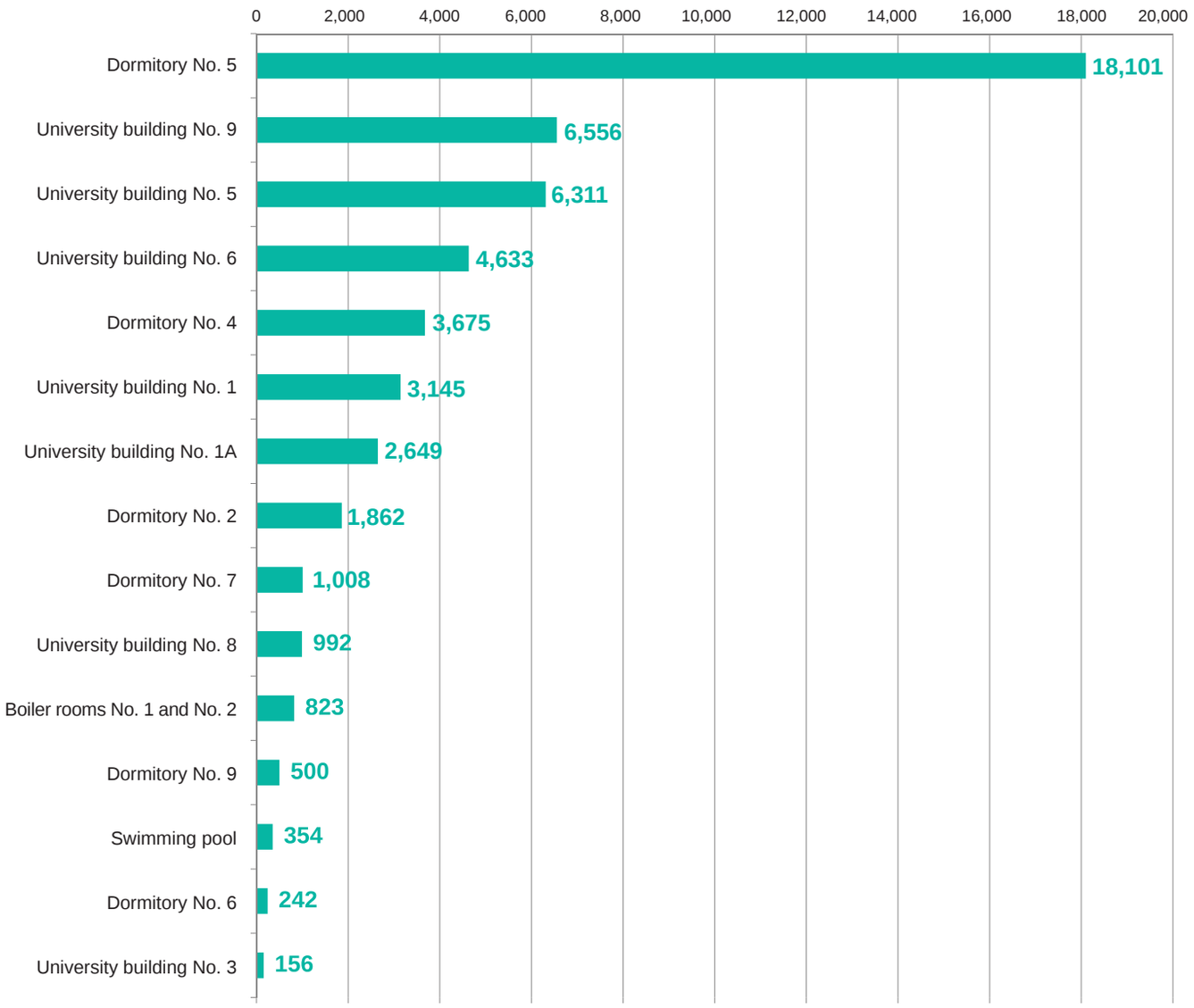


Figure 9.10

FINANCIAL STRUCTURE OF REPAIR AND MAINTENANCE WORKS IN 2020 AND 2021, THOUSAND ROUBLES

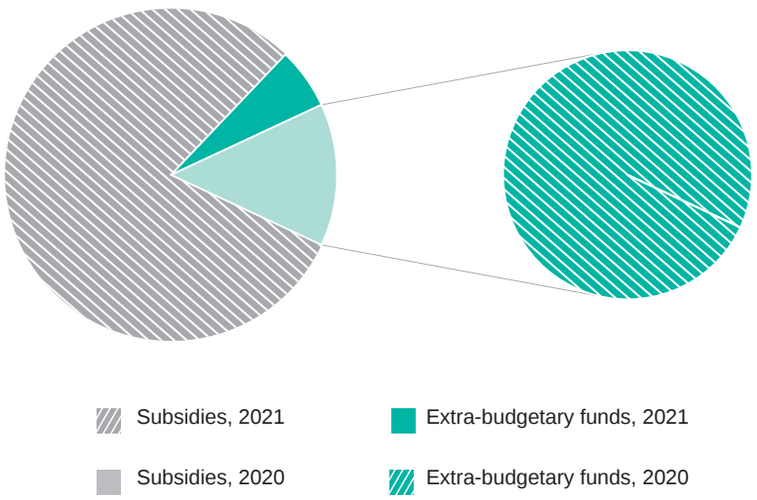


Figure 9.11

STRUCTURE OF UTILITY BILLS EXPENDITURE IN 2020 AND 2021, THOUSAND ROUBLES

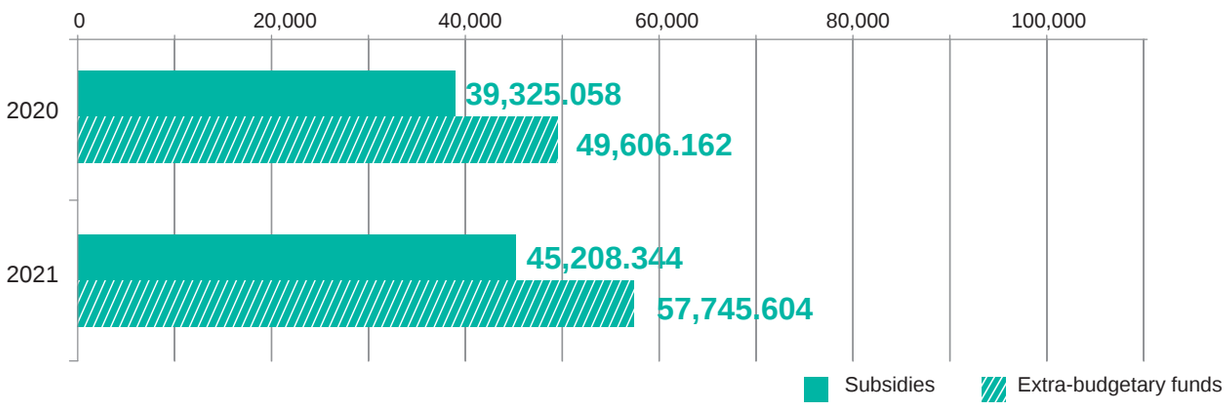


Table 9.2

VOLUME AND COST OF CONSUMED RESOURCES IN ROUBLES

Type of energy resource	2019		2020		2021	
	Volume	Amount	Volume	Amount	Volume	Amount
Electrical energy	7,142,981 kWh	43,534,728	6,269,421 kWh	40,150,477	6,725,475 kWh	44,783,768
Natural gas	1,621.839 thousand m^3	11,415,825	1,435.063 thousand m^3	10,286,881	1,414.017 thousand m^3	10,466,715
Heating, including hot water	16,226 Gcal	29,347,472	14,594 Gcal	27,939,196	16,806 Gcal	33,457,505
Water, water discharge	286,407m^3	12,294,261	253,992m^3	10,554,666	271,915m^3	14,245,960
	324,284m^3		280,606m^3		301,440m^3	
Total		**96,592,286**		**88,931,220**		**102,953,948**

9.5. MAIN RESULTS OF THE ACTIVITIES IN 2021

Based on the data from periodic inspections of the technical condition of the property assets, taking into account the significant number of requests from faculty deans and university staff responsible for the repair of classrooms and housing, in the reported year, specialists of the Capital Construction Department and Production and Technical Department of VSU developed a plan of repair works for the current year and the subsequent (three-year) period. Extensive works were carried out to inspect the assets, compile defect statements, and prepare project documentation for all repair work with a three-year horizon for a total amount of more than 258 million roubles.

Budgetary and extra-budgetary funds, as well as sponsored financing by the university's partners, allocated for the repair of property assets, were used as efficiently as possible.

The energy saving and energy efficiency programme for buildings, facilities, and equipment of the university was continued.

All works were conducted with due consideration of the programme for creating an accessible environment for physically challenged people.

Engineering services ensured the non-stop operation of all technical systems and the necessary life support parameters for buildings, structures, and premises throughout the reporting year.

9.6. OVERVIEW OF PROMISING PROJECTS IN THE AREA OF DEVELOPMENT OF PROPERTY ASSETS IN 2022

- To continue the design of a new 11,000 m^2 dormitory for 400 students on the territory located at 10a Friedrich Engels St.
- To take measures aimed at creating a living environment offering equal opportunities for people with disabilities and people with limited mobility.
- To begin designing a new energy efficient gas boiler-house (main university building), which should be in a free-standing building, not in the basement. The boiler room in the basement was commissioned in 1963 as a temporary solution.
- To prepare design documentation for the repair of classrooms of university building No. 3 and the Inclusive Education Centre in accordance with the requirements of the Directorate for the Protection of Cultural Heritage.
- To create an environment that meets fire safety requirements and makes it possible to introduce modern research and academic technologies. To replace the supply and exhaust ventilation systems, which are worn out and have long outlived their service period.
- To take measures to ensure energy saving and energy efficiency to meet the requirements of the Order of the Ministry of Education and Science of the Russian Federation No. 309 dated 18 April 2012 on Energy Conservation and Energy Efficiency Improvement.
- To continue the reconstruction of buildings and facilities in the “Galichya Gora” nature reserve and to finish reconstruction of the Visitor Centre.
- To prepare the buildings and facilities of the Venevitinovo recreation facility for the summer season of 2022. To carry out a technical review for the further construction of the Venevitinovo Dormitory.
- To prepare the project documentation for major repairs to the “Ski Lodge” sports complex.
- To finish major repairs to the canteen in university building No. 2.
- To finish major repairs to the ventilation and lighting of the attic of the main building.
- To prepare project documentation for major repairs to the building of dormitory No. 1.
- To implement the concept for the reconstruction and improvement of the Botanical Garden in stages (72, 32 ha).
- In view of the dangerous condition of the building, to perform major repairs to the roof and premises of university building No. 7.
- To ensure the operation of buildings, including the execution of contract No. 3010-16/37-20 dated April 1, 2020 “For the provision of comprehensive operational and technical maintenance of buildings and structures, engineering networks and systems at the facilities that are managed by VSU”.


СИСТЕМЕ
ИНФОРМАЦИОННОГО
ОБЕСПЕЧЕНИЯ ДЕЯТЕЛЬНОСТИ
ВООРУЖЕННЫХ СИЛ
РОССИЙСКОЙ ФЕДЕРАЦИИ

MILITARY EDUCATION AT VORONEZH STATE UNIVERSITY

10

10

MILITARY EDUCATION AT VORONEZH STATE UNIVERSITY

Yu. N. Korenchuk,
Colonel, Head of the Military Training Centre

10.1. OBJECTIVES IN THE FIELD OF MILITARY EDUCATION IN 2021

- Implementation of the military education programme for military service under contract in military occupational specialities for reserve officers.
- Implementation of educational programmes in military occupational specialities for reserve officers.
- Implementation of educational programmes in military occupational specialities for reserve sergeants.

10.2. INFORMATION ON MILITARY OCCUPATIONAL SPECIALITIES IMPLEMENTED AT THE MILITARY TRAINING CENTRE

In the field of training and graduating citizens studying at the MTC:

- Implementation of a military training programme for the students and the organisation of the training period ending with the military oath ceremony for the fourth-year students.
- Organisation of the assessment for the graduates to affiliate them with the commissioned staff for further military service under contract.
- Award ceremony for graduates where they receive their epaulettes, officer's identification certificates, and identity numbers.
- Preparation of orders for the assignment of military ranks to graduates for reserve "lieutenants" and "sergeants".

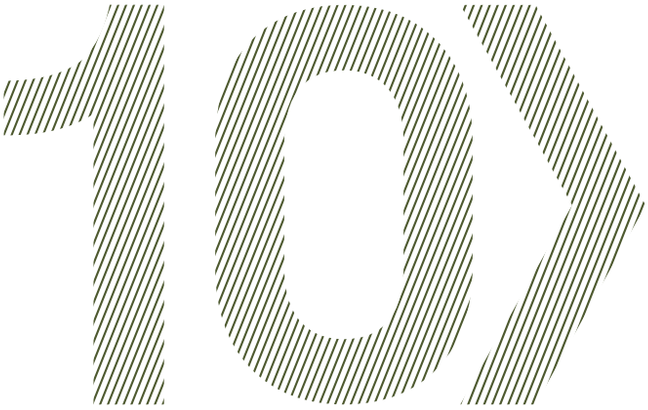
In the field of preparation for new admissions at the MTC:

- Conducting promotional activities to attract applicants for admission to the Military Training Centre (with further service under contract) and students to undergo training in training programmes for reserve officers and sergeants.
- Revision of the educational process documentation with its further approval by the partners.
- Revision of the educational process documentation for newly introduced military occupational specialities with its further approval by the partners.
- Conducting an admission campaign during the pandemic.
- Enrolment of applicants and students who have successfully passed the competitive selection.
- Organisation of the final assessment of citizens who completed the training period and internships.

Table 10.1

INFORMATION ON THE MILITARY OCCUPATIONAL SPECIALITIES IMPLEMENTED BY THE MTC IN 2021

No.	Military speciality	Number of students	
		Personnel	Reserve
1	Linguistic Support of Military Activities	2	–
2	Military Units and Anti-Tank Artillery Warfare	61	–
3	Military Units and Ground Artillery Warfare	57	68
4	Anti-Tank Guided Missile (ATGM) Warfare	91	69
5	Mortar Warfare	69	71
6	IT Support of Military Activities	28	46
7	Information and Psychological Support of Military Activities	36	46
8	Information Support Organisation	24	–
9	Psychological support	8	–
10	Artillery. Gun commander	–	107
11	Anti-tank missile systems. Track commander	–	106
12	Mortars. Gun commander	–	34



10.3. A BRIEF REPORT ON THE ACTIVITIES OF THE MILITARY TRAINING CENTRE FOR THE TRAINING OF OFFICERS TO SERVE UNDER CONTRACT

In 2021, according to the order of the commander of the Western Military District of 24 November 2020 No. 540dsp, training camps and internships were held.

Trainings with 5th year students enrolled in cadre officer training programmes were held from 22 February to 23 March 2021:

- In Troop Unit 31969 (Tambov) for military speciality 030404, 44 people. For military speciality 030600, 42 people. 86 people were sent, 86 people were trained.
- In Troop Unit 54607 (Tambov) for military speciality 093400, 10 people. For military speciality 093500, 8 people. 18 people were sent, 18 people were trained.
- In Military Training Centre (Linguistics Centre of the Ministry of Defence of the Russian Federation, Moscow) for military speciality 390400, 2 people were sent, 2 people were trained.
- In the Press Service of the Central Military District (Yekaterinburg) for military speciality 808000, 3 people were sent, 3 people were trained.
- In the Press Service of the Southern Military District (Rostov-on-Don) for military speciality 808000, 3 people were sent, 3 people were trained.

The number of students who completed the training period was 112.

Upon completing the training programmes, students of the Military Training Centre have acquired the practical skills for independent performance of their official and special duties in primary officer positions in accordance with their specialisation; their theoretical knowledge acquired during the study of special tactical, special military, and general military disciplines was checked; students also acquired the practical skills required for the control of subdivisions when performing various tasks as well as skills in the field of maintenance, repairs, and conservation of military hardware, military equipment, maintenance and repair facilities, and also accounting, categorisation, and writing-off of weapons and military equipment. In addition, they studied the organisation of the everyday activities of troops.

Training camps with 4th year students enrolled in cadre officer training programmes were held from 21 June to 4 July 2021:

- At Troop Unit 53195 (Kolomna, Moscow region) for military speciality 030404, 17 people. For military speciality 030405, 20 people. For military speciality 030600, 19 people.
- At Troop Unit 54607 (Tambov) for military speciality 093400, 8 people. For military speciality 093500, 10 people.
- At Troop Unit 31895 (Voronezh) for military speciality 380201, 8 people. For military speciality 808000, 10 people.

The number of students at the training programmes for officers who were sent to training camps and completed the training was 92.

The administrations of the training camps were assigned as the commanders of the above-mentioned troop units. According to the applications, weapons and military equipment, military technical supplies, motor resources, military uniforms and gear, and food supplies were provided.

The troops that were sent to training camps for field training were accommodated in military barracks. Three meals were provided daily during the training. There were no complaints about the quality of food from the troops. Medical support was provided at the medical offices of the troop units. Medical aid, when needed, was delivered quickly and professionally. A bath-and-laundry service was offered, including changes of underclothing and bed linen.

At the military shooting range on the training grounds for troop units, the students involved in the training camps performed 1 firing exercise with a Makarov gun, 1 practice range shooting, and 2 practice range shootings with an AK-74 assault rifle during the course of their basics training with weapons using small arms.

The following standards were practised during the course of training:

- Tactical Standard No. 1 “Covered movement towards enemy units”.
- Nuclear, Biological and Chemical Protection Troops Standard No. 4 “Putting on military protective gear, a protective film suit, and a gas mask”.
- Communication Standard No. 1 “Operation preparation and adjustment of a P-159 portable radio station”.
- Medical Training Standard No. 1 “First-aid dressing”.
- Engineering Training Standard No. 1 “Equipping a trench for shooting from a prone position”.

At the training base of the 236th artillery brigade (Kolomna, Moscow Region), the students (MTC 030404) studied Firing and Gun Control and performed task No. 1a of the artillery training course with simulated shooting under fire (auxiliary barrel).

During the shooting practice, student crews successfully performed their duties. During artillery shooting practice, there were no violations of safety regulations.

Training points with multimedia equipment and Artera software were used to their full extent when performing exam fire task No. 3 of the artillery training course (MTC 030404, 030405) while 9F618M and 9F619M simulators were used to perform fire tasks, No. 1 and No. 2, of the artillery training course.

By Order of the Minister of Defence of the Russian Federation of 1 September 2021 No. 717, 54 graduates of the Military Training Centre who completed training programmes for cadre officers and signed their first contract for military service for a period of three years were awarded the first military rank of “lieutenant” and personal numbers.

Students were enrolled in the training programme for cadre officers of the Military Training Centre based on the target figures in student admissions and the VSU Rector’s directive No. 3-2123 of 30 August 2021. The enrolment was competition-based, and applicants had passed a military medical examination and qualified as ready for service, passed the fitness level examination and the psychological tests, and had signed the contract with the Ministry of Defence of the Russian Federation in the prescribed form for the military occupational speciality 030400 (20 people).

For reference only: The number of prospective students for the Military Training Centre at Voronezh State University is determined in accordance with the Government Executive Order No. 3161-r of 28 November 2020 and letters from the Ministry of Science and Higher Education of Russia No. M?-5/1740N-5/1740-DA of 1 June 2021 and No. MN-5/1114 of 1 June 2021.

Table 10.2

ADMISSION TO THE MILITARY TRAINING CENTRE IN 2021 TO PREPARE OFFICERS FOR SERVICE UNDER CONTRACT

Military speciality	Major (speciality)	Number of students
Military Units and Mortar Warfare	10.05.01 – Computer Security	10
	10.05.04 – Information Analysis Security Systems	5
	38.05.01 – Economic Security	5
Total		**20**

10.4. A BRIEF REPORT ON THE TRAINING OF RESERVE OFFICERS (SERGEANTS) AT THE MILITARY TRAINING CENTRE

Training camps with 4th year students enrolled in the training programmes for reserve officers and sergeants were held from 21 June to 24 July 2021 at the Military Training Centre of VSU for military speciality 030400, 42 people. For military speciality 030405, 45 people. For military speciality 030600, 44 people. For military speciality 139177, 30 people. For military speciality 131181, 33 people. For military speciality 143181, 34 people.

The number of students at the training programmes for reserve officers and sergeants who were sent to training camps was 229.

The number of students at the training programmes for reserve officers and sergeants who completed the training was 228.

At the military shooting range No. 3 (motor rifle division, “Pogonovo” training ground, Voronezh) the students involved in the training camps performed 1 practice range shooting and 3 firing exercises with an AK-74 assault rifle in the course of the basics of weapons training using small arms.

At the military shooting range the students also practised in Tactics (MTC 030400, 030405, 030600) and Special Training (MTC 137181, 139177, 143181) with training artillery firing (auxiliary barrel) direct fire (MTC 030400, 131181) with the completion of task No. 1a of the artillery training course.

Training points with multimedia equipment and Artera software were used to their full extent when performing the examination for fire task No. 3 of the artillery training course (MTC 030404, 030405) while 9F618M and 9F619M simulators and the software developed by the academic and teaching staff and the students of the Military Training Centre were used to perform fire tasks, No. 1 and No. 2, of the artillery training course (MTC 030600, 139177).

The military oath ceremony was performed during the training period.

By order of the military commissar of the Voronezh region No. 282 of 26 July 2021, 86 graduates of the Military Training Centre, who were trained under the military training programme for reserve sergeants, were enrolled in the reserve with the assignment of the first military rank “sergeant” and a personal number in accordance with article 52 FZ “On Military Duty and Military Service” and clause 4.1 of article 21 of the Regulations regarding military service approved by the Decree of the President of the Russian Federation No. 1237 of 16 September 1999.

In 2021, 491 applications were submitted to the Department of Missile Forces and Artillery, 144 students were accepted. The competition for places was 3.4 people per place.

In 2021, 135 applications were submitted to the department of Special Training, 48 students were accepted. The competition for places was 2.8 people per place.

Table 10.3

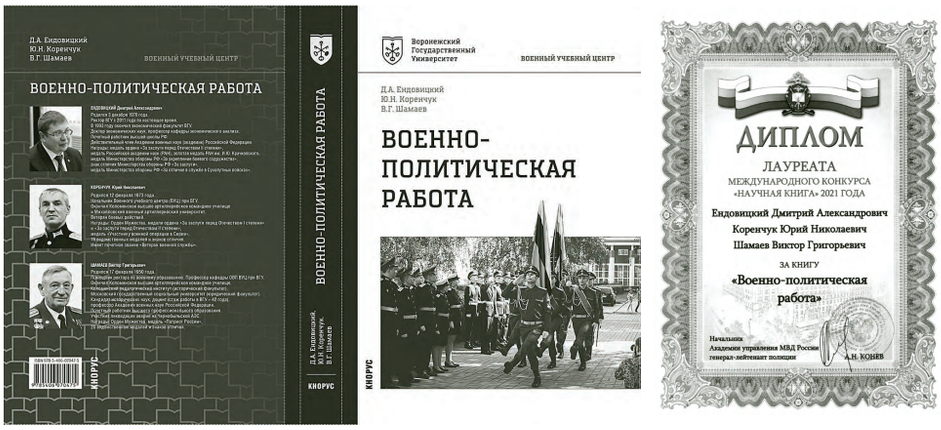
TRAINING PROGRAMMES FOR RESERVE OFFICERS (SERGEANTS)

No.	Military speciality	Trained, people		
		2nd year	3rd year	4rd year
1	Anti-Tank Guided Missile (ATGM) Warfare	24	24	21
2	Military Units and Ground Artillery Warfare	24	22	22
3	Military Units and Mortar Warfare	24	23	24
4	IT Support of Military Activities	24	22	–
5	Information and Psychological Support of Military Activities	24	22	–
6	Artillery. Gun commander	36	35	36
7	Anti-tank missile systems. Track commander	36	34	36
8	Mortars. Gun commander	–	–	34

10.5. EVENTS AND MEETINGS HELD BY THE VSU ADMINISTRATION AND THE FACULTY OF MILITARY EDUCATION IN ORDER TO DEVELOP THE VSU MILITARY TRAINING SYSTEM

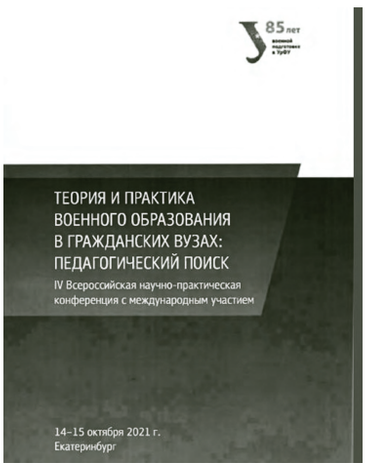
- VSU Rector Dmitry Endovitsky took part in military-patriotic events: laying wreaths in honour of Victory Day and the trooping of the colours in honour of the presentation of officer epaulettes of graduates of the MTC.
- The list of specialities and types of military training for students continued to expand. On 14 April 2021, VSU Rector Dmitry Endovitsky received a letter from the Deputy Minister of Defence of the Russian Federation, Head of the Main Military-Political Directorate of the Armed Forces of the Russian Federation informing about the introduction of training of reserve officers for the military occupational speciality “Psychological support” at the Military Training Centre at VSU.
- Under the leadership of VSU Rector Dmitry Endovitsky, the team of the MTC at Voronezh State University developed a study guide “Military-political work” (published in 2021 in the publishing house KNORUS (Moscow)), for which the authors were awarded a laureate diploma in the “Acknowledged leader” nomination and an “Honoured author” badge.

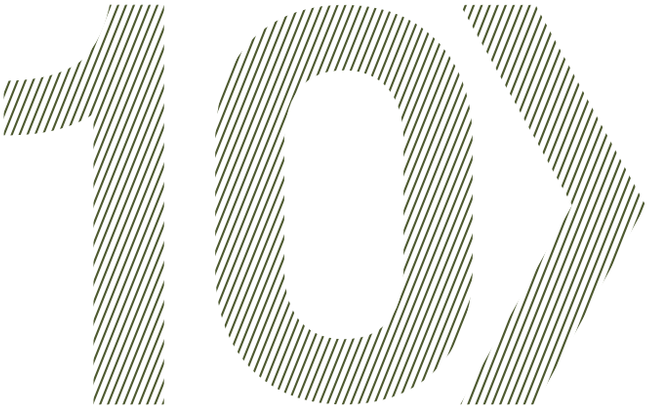
- On the initiative of VSU Rector Dmitry Endovitsky, the study guide “Military-political work” was presented at the international competition “Scientific book”. The competition was organised by the representatives of the Academy of Public Administration of the Russian Ministry of the Interior. “As a result of an independent review and in accordance with the decision of the expert committee of the competition, the team of authors of the study guide was awarded a laureate diploma,” said the letter signed by Andrey Konev, Head of the Academy of Public Administration of the Russian Ministry of the Interior and Major General of the Police.



- VSU Rector Dmitry Endovitsky, Head of the Military Training Centre Yury Korenchuk, and Professor of the Department of General Military Training at the Military Training Centre of Voronezh State University Viktor Shamaev contributed to the All-Russian scientific-practical conference (with international participation) “Theory and practice of military education in civilian universities: a pedagogical search”. The conference was held at the Military Training Centre of the Ural Federal University. The delegation from Voronezh participated in the forum via videoconferencing.

  The results of the conference were published in the electronic proceedings of the conference with the best research articles of the participants. Among them is the article “Military-political training as a subject in the educational process: reforming, experience, and conclusions” written by VSU Rector Dmitry Endovitsky, Head of the VSU Military Training Centre, Colonel Yury Korenchuk, and Professor of the Department of General Military Training, retired colonel Viktor Shamaev.





- On 7 May, a mass meeting devoted to the Victory in the Great Patriotic War was held in the park of the main building of VSU. VSU Rector Dmitry Endovitsky and Alexander Kartavtsev, Chief of Staff of the regional branch of the All-Russian military patriotic social movement for young people “Yunarmia”, signed an agreement on strategic partnership.
- On 14 and 17 May VSU prolonged the agreements on strategic partnership with two educational institutions, Mikhailovsky military school and Suvorov cadet school, respectively. Key activities aimed at the balanced development of pupils were specified.

  The representatives of the VSU Military Training Centre met the pupils: lieutenant colonel Ivan Korolev took part in the ceremony of matriculation of cadets that was held at Chizhovka memorial and reserve lieutenant colonel Vladimir Golubnichy told cadets from higher forms about the process and requirements for the admission of VSU students to the Military Training Centre as well as about the advantages for its graduates.
- On the initiative of VSU Rector Dmitry Endovitsky, “to celebrate the 95th anniversary of military education at Voronezh State University, on 24 September 2021 the VSU Academic Board announced 1 October the ANNUAL HOLIDAY of the VSU Military Training Centre”. The ceremony dedicated to this important event was held in the main building of Voronezh State University on 1 October.
- VSU Rector Dmitry Endovitsky, a graduate of the Reserve Officer Training Department and Vice President of the Russian Rectors’ Union, congratulated the academic staff, students, and guests. On the occasion of the annual holiday, an order was issued concerning the encouragement of the staff of the training centre. Acting and reserve officers of the MTC were awarded honorary medals, valuable gifts, and honorary certificates by the Megapir National Association of the unions of reserve officers.
- A celebration ceremony dedicated to the 50th anniversary of the informational support system of the Armed Forces of the Russian Federation was held in the Central Academic Theatre of the Russian Army in Moscow. VSU Rector Dmitry Endovitsky and representatives of the MTC at VSU were invited to join the event.

In his welcome speech addressed to Major General Igor Konashenkov, Head of the Department of Media Affairs and Information, the Rector of Voronezh State University, Dmitry Endovitsky, noted that VSU had been participating in the implementation of a unique training programme for public relations specialists for the Armed Forces of Russia since 2006.

10.6. SUMMARY OF KEY ACHIEVEMENTS IN 2021

- A local research and methodology conference dedicated to the 95th anniversary of military education at VSU was held online at the MTC as part of the research session. The main speech “The role and place of the system of military training in the education of students” was presented by VSU Rector Dmitry Endovitsky.
- For the first time in the 95-year history of military education at Voronezh State University, the MTC operated in distance mode. The military training programmes at the MTC have been completed.
- A clear system of military education in a civilian university has been developed:
  - 2 years - training of reserve sergeants.
  - 2.5 years - training of reserve officers.
  - 5–5.5 years - training of commissioned officers.
- New military occupational specialities have been introduced at the MTC in order to train reserve officers, which led to an increase in recruitment by 66%.
- Documentation was developed for the newly introduced military occupational specialities. The documents include:
  - Qualification requirements to the graduates within each military occupational speciality.
  - An overall calculation of academic hours for each educational programme and their distribution.
  - Curricula, course, practice, training period, and final assessment syllabuses within the military training course.
- The implementation of military training programmes is organised in accordance with the general military regulations of the Armed Forces of the Russian Federation, orders and directives of the Minister of Defence of the Russian Federation, directives of the Head of the General Staff of the Ministry of Defence of the Russian Federation, orders of the Minister of Science and Higher Education of the Russian Federation, order of the Minister of Defence of the Russian Federation and the Ministry of Science and Higher Education of the Russian Federation of February 13, 2020 No. 66/212, by order of the Minister of Defence of the Russian Federation of August 26, 2020 No. 400 “On the determination of the procedure for admission and training of citizens of the Russian Federation in Military Training Centres in the Federal State Educational Institutions of Higher Education.” The new regulatory and legal framework required new approaches and the revision of a number of documents.

VSU REGIONAL SCIENTIFIC LIBRARY

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VSU REGIONAL SCIENTIFIC LIBRARY

A. Yu. Minakov,
Director of the VSU Regional Scientific Library

The Regional Scientific Library of Voronezh State University (hereinafter – the library) is the largest university library in the Voronezh Region and is a regional methodology centre for libraries of state higher education institutions in the Central Black Earth Region. The library provides methodological assistance and consultations to regional university libraries and organises advanced training courses for their staff. In 2021, it rendered library and information services, managing a universal multi-purpose collection of Russian and foreign books and documents on physical media, diligently preserving this collection for future generations. It also provided access to local and remote information resources online. The full list of services can be found on the library's website: www.lib.vsu.ru. The services are provided in full compliance with the ISO international standards.

The library has created an accessible environment for disabled visitors.

As of 1 November 2021, the unified library collection of Voronezh State University was comprised of **3,142,675** items on physical media in various languages. The collection was completed with the sources necessary for all education and scientific programmes implemented at VSU according to the Thematic and Typological Acquisition Plan: www.lib.vsu.ru/Преподавателям. The education materials meet the requirements set in the State Educational Standards and exceed them; they also meet the requirements set by VSU. The library is also subscribed to relevant periodicals within the educational and scientific scope of the University. Some documents were donated to the collection. In 2021, the library collection was enlarged by **12,878** items on physical media. On average, the collection contains about **124** items per subscriber. The overall collection was increased by a ratio of 0.4, and the study books collection increased by a ratio of 0.6. The majority of items in the collection are books, journals, scientific, and educational literature (Fig. 11.1–11.4).

Figure 11.1

COLLECTION STRUCTURE ACCORDING TO THE TYPES OF ITEMS
(3,142,675 ITEMS AS OF 1 NOVEMBER)

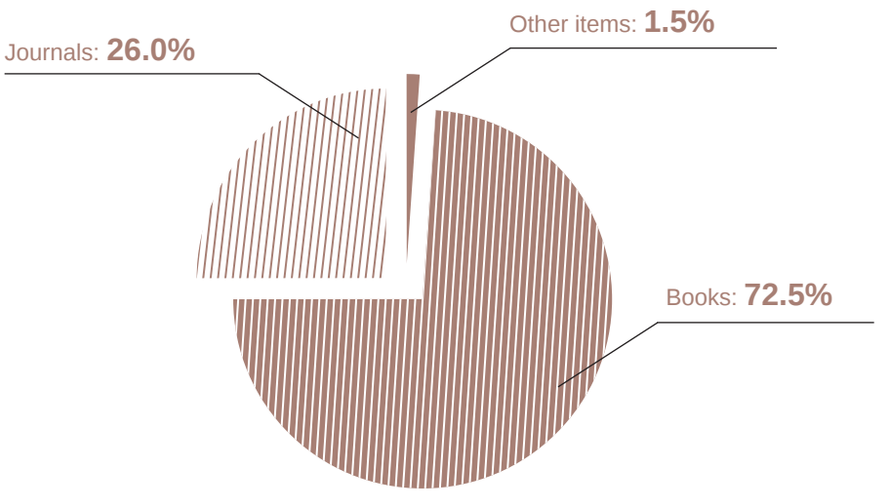


Figure 11.2

COLLECTION STRUCTURE ACCORDING TO THE PURPOSE OF ITEMS
(3,142,675 ITEMS AS OF 1 NOVEMBER)

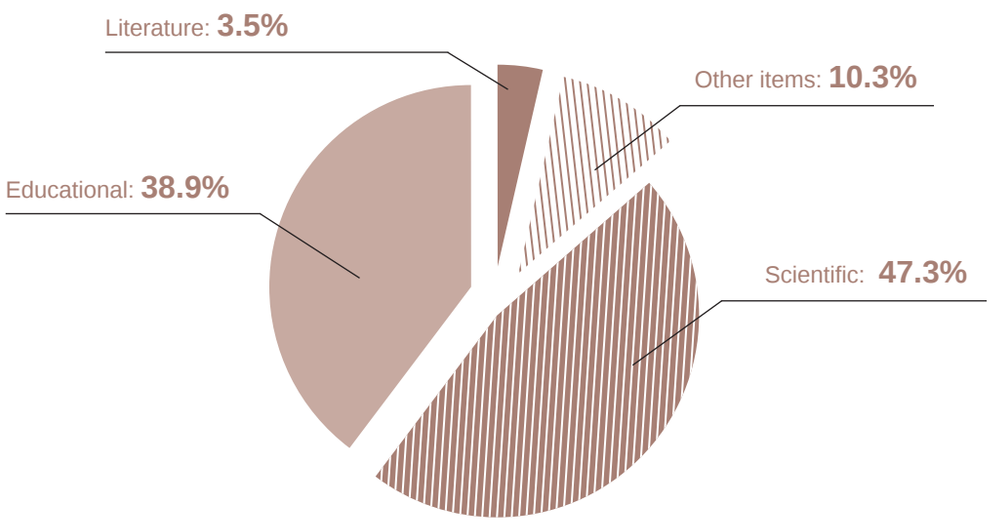


Figure 11.3

NUMBER OF NEW ITEMS IN THE COLLECTION

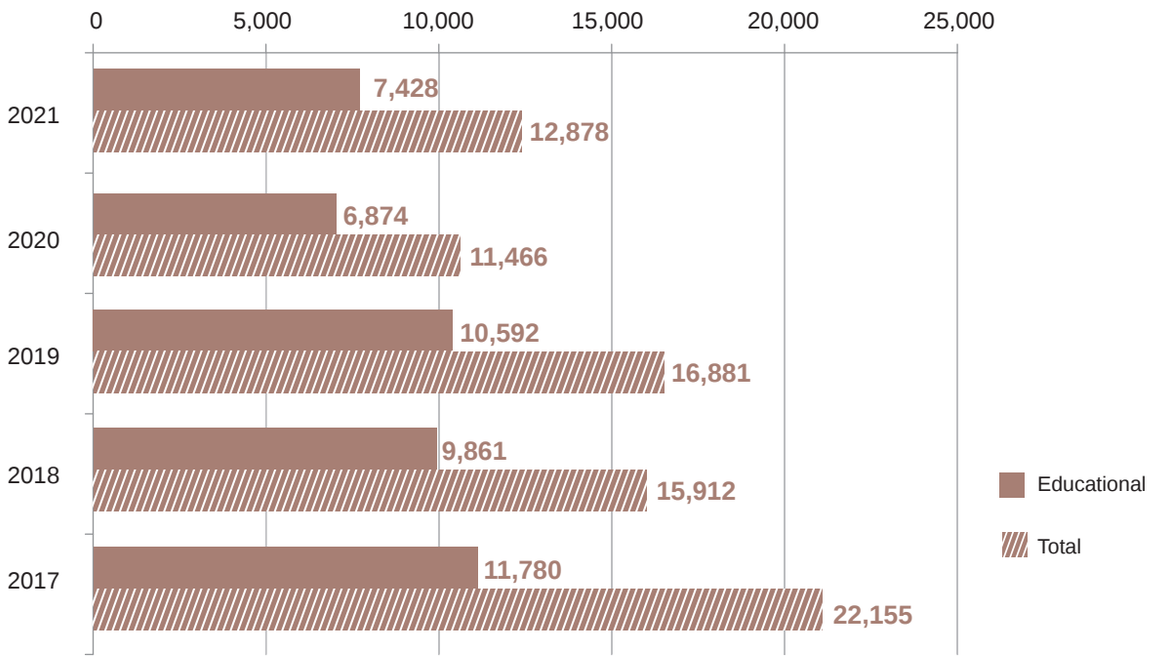
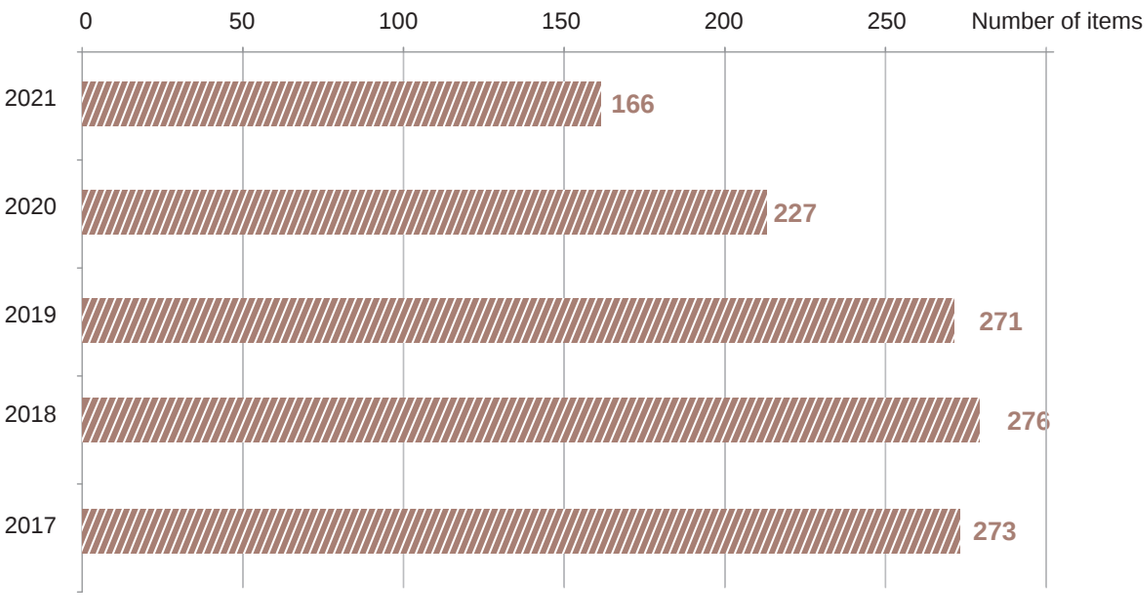


Figure 11.4

NUMBER OF NEW SUBSCRIPTION PERIODICALS IN THE COLLECTION



Moreover, in 2021, library subscribers were able to gain remote access to **2,948,142** items. To achieve this, the library provided access to international databases via coordinated national subscription. In addition, library subscribers were able to use open access electronic resources and such e-library systems as University Library Online, Student Assist, Lan Publishing, IPRbooks, and Urait. The library has subscribed to the electronic periodicals of IVIS. The library continues to manage a full-text database "VSU E-Library".

The acquisition expenses amounted to **7,054,090 roubles 96 kopecks**.

The library's collection of rare documents includes about **100,000** items. It consists of unique Russian and foreign editions of the 16th-21st centuries, represented by manuscripts, books, and periodicals.

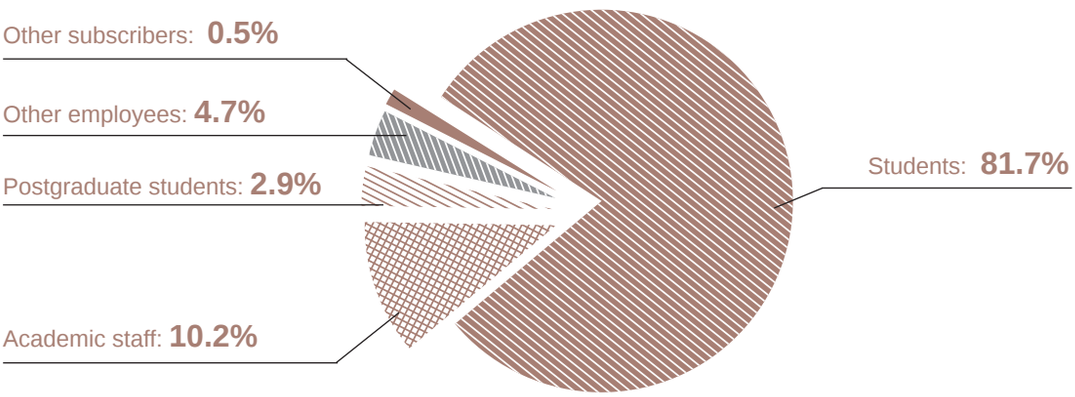
The library maintains its e-catalogue, which provides information about the items in the collection, and can be found on the library website. As of 1 December 2021, the catalogue contained **1,074,648 entries**.

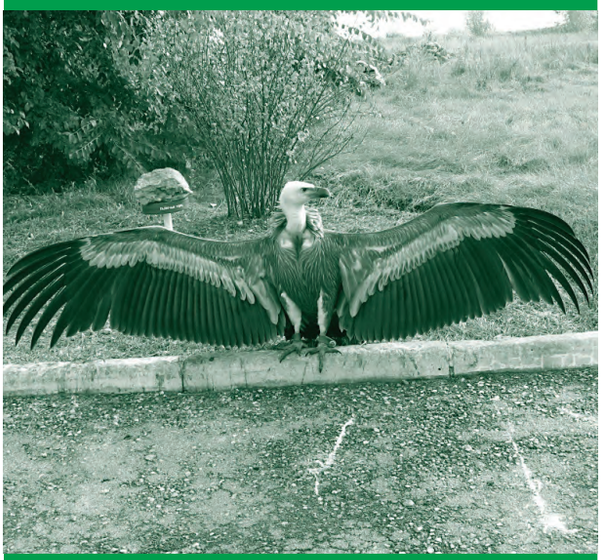
To conserve the University's scientific heritage, the library keeps an electronic index of the works published by VSU staff members. As of 1 December 2021, the index included **225,971** entries. To improve the university's academic and scientific rating, the library provides access to the Web of Science and SCOPUS databases and uploads the information about the VSU staff publications to the eLIBRARY database. As of 28 December 2020, the University was ranked 21st among Russian universities by such an essential bibliometric parameter as the number of publications.

In 2021, there were **25,273 entries** in the unified registration catalogue of the library subscribers (Figure 11.5). Altogether, the library provided its services to **47,783 subscribers. 79,442 subscribers** were served remotely.

Figure 11.5

COMPOSITION OF THE LIBRARY SUBSCRIBERS IN 2021





THE "GALICHYA GORA" NATURE RESERVE

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THE “GALICHYA GORA” NATURE RESERVE

N. Ya. Skolznev,
Director of the “Galichya Gora” nature reserve

PROGRESS REPORT FOR 2021

The “Galichya Gora” nature reserve was founded in 1925 in the territory of what is now the Lipetsk Region for conservation and studying the non-native flora of the area. In 1936, the reserve was handed over to Voronezh State University.

It is the only nature reserve under the Ministry of Science and Higher Education of the Russian Federation.

It currently comprises seven separate sites of 11 to 96 hectares each, located in four administrative districts of the Lipetsk Region. The total area of the reserve is 234.4 hectares. “Galichya Gora” is included in the Guinness Book of World Records as the smallest nature reserve in the world. The protected territory is the centre of the River Don region with unique landscapes and a variety of relict flora and entomofauna.

The reserve is the leading research, educational, and conservation centre of Voronezh State University in the Lipetsk Region. High-profile specialists in botany, zoology, and ecology work at the nature reserve’s research centre. The research centre has 4 laboratories, a variety of collections, a meteorological station, and a scientific library.

The collections include internationally well-known exhibits, such as:

- the Herbarium of the Central Russian Upland and Contiguous Territories (42.63 thousand items),
- the Collection of Invertebrates (298 thousand items), and
- the Mycological Collection (4.64 thousand items).

In 1990, the nursery for carnivorous birds registered in The Red Book of the Russian Federation, was founded. More than 400 saker falcons were released into the wild. Most eyas are bought by falconry lovers from Russia and abroad. The reserve also functions as a rehabilitation centre. The old Russian tradition of falconry is gradually being revived.

The reserve was awarded with a badge of honour for serving Voronezh State University.

In 2021, research projects were carried out by eight full-time specialists in accordance with the approved research programme and plans. The reserve's staff continued to monitor the state and dynamics of the natural habitats. Such monitoring has been carried out continually since 1974. Materials for the 48th volume of "Nature records of the "Galichya Gora" nature reserve" have been collected and are being processed.

The general research topic "Scientific Basis and Methods for Conserving the Variety of Landscapes and Ecosystems of the Specially Protected Natural Areas in the Upper Don Region" was divided into nine subtopics covering the main biota taxons of the area: fungi, plants, invertebrates, and vertebrates. The reserve's collections have been enriched.

In 2021, a collection of research papers (20.5 printed sheets) was published. Moreover, our scientists published 51 research papers (of which, 2 papers were published in the leading journals included in the list of referenced scholarly journals recommended by the State Commission for Academic Degrees and Titles of the Russian Federation, 29 papers were published in journals indexed by the Russian Science Citation Index, and 1 was published in a journal indexed by Scopus). The researchers took part in 4 international and federal conferences with 6 reports.

The most important results of the work performed in 2021 include the publication of the research results of the "Galichya Gora" nature reserve (Ekologicheskie issledovaniya v zapovednike "Galichya gora" [Ecological research in the "Galichya Gora" nature reserve]. Issue 3. Collection of research papers. Sarychev V. S. (Ed.). Voronezh, Tsifrovaya Poligrafiya Publ., 2021. 158 p.). In addition, the reserve's researchers contributed to the Red Book of the Russian Federation (Krasnaya kniga Rossiiskoi Federatsii [The Red Book of the Russian Federation]. Volume "Animals". 2nd edition. Moscow, FGBU "VNII Ekologiya", 2021. 1128 p.) and the Red Book of the Tula Region (Krasnaya kniga Tul'skoi oblasti: lishainiki i griby [The Red Book of the Tula Region: lichens and fungi]. Tula, Akvarius, 2021. 152 p.).

One of the reserve's functional and specific tasks is environmental education. First of all, a total of 155 first-, second-, and third-year students from the Faculty of Geography, Geoecology, and Tourism and the Faculty of Biomedical Sciences undertook educational and onsite practical training at the reserve in six batches from May to July. In addition, a creative art competition, Bird of the Year 2021, was organised for schoolchildren, and workshops were held for beginner nature researchers from Lipetsk, Moscow, and Michurinsk. Staff members of the nature reserve were also engaged as scientific experts for the Public Councils of the Department of the Environment and the Forestry Department of the Lipetsk Region. The reserve arranged field events and mobile exhibitions related to environmental protection. A TV report on the "Galichya Gora" nature reserve, a video report on the development of the Zadonsky tourism cluster, and a report on Russian berries for the Zhivaya Planeta TV channel were filmed in the reserve.

In 2021, experts affiliated with the Russian Entomological Society, the Russian Geographical Society, the Russian Birds Conservation Union, and various Russian universities and state reserves, visited "Galichya Gora" in order to perform both individual and collaborative research.

With the help of investors from Lipetsk, the roofing and tiling of the facade of the former canteen were completed, the canteen will be converted into the university's Environmental Education Centre.

SUBJECT INDEX

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