https://doi.org/10.15407/scine22.03.023

ZHARINOVA, A. H. [1] (https://orcid.org/0000-0003-3959-1074),
SHKURATOV, O. I. [2] (https://orcid.org/0000-0002-8656-723X),
ZHARINOV, S. S. [1] (https://orcid.org/0000-0003-3568-8127),
and DOHTIEVA, I. O. [1] (https://orcid.org/0000-0002-8567-6952)

[1] State Scientific and Technical Library of Ukraine,
180, Antonovycha St., Kyiv, 03150, Ukraine,
+380 44 521 9350, dntb@dntb.gov.ua
[2] Kyiv National University of Construction and Architecture,
31, Povitrianykh Syl Ave., Kyiv, 03037, Ukraine,
+380 44 243 2603, pk@knuba.edu.ua

ASSESSMENT OF SUPPORT OF COMPETITIVE SELECTION PROCESSES FOR FUNDING OF SCHOLARLY RESEARCH (R&D) PROJECTS PROVIDED BY THE NATIONAL ELECTRONIC SCIENTIFIC INFORMATION SYSTEM

Introduction. *The conduct of competitive selection procedures constitutes a fundamental organizational and methodological prerequisite for financing individual scientific programs and projects and for allocating state budget grants through targeted funding mechanisms.*

Problem Statement. *The strategic effectiveness of funding allocation depends on the quality of competition design and administration, as well as on the reliability and predictive validity of expert evaluation. In the context of digital transformation, a critical task is the development of mechanisms that ensure transparency, objectivity, and economic efficiency of competitive procedures.*

Purpose. *This study aims to analyze the support of competitive selections within the National Electronic Scientific Information System (hereafter, the System), to assess its capacity to mitigate existing organizational and methodological risks, and to provide recommendations for improving competitive procedures.*

Materials and Methods. *Empirical and general logical methods have been applied to analyze the regulatory framework and identify associated risks. Functional analysis has been used to examine the Competition Module. Information-analytical and statistical methods have been employed to evaluate the qualitative and quantitative characteristics of procedural processes and selection data.*

Citation: Zharinova, A. H., Shkuratov, O. I., Zharinov, S. S., and Dohtieva, I. O. (2026). Assessment of Support of Competitive Selection Processes for Funding of Scholarly Research (R&D) Projects Provided by the National Electronic Scientific Information System. *Sci. innov.*, 22(3), 23—44. https://doi.org/10.15407/scine22.03.023

Results. *The implementation of competitive selection support within the System has addressed a substantial share of previously identified challenges and has reduced organizational and methodological risks. A comprehensive analysis of information processes within the Competition Module has facilitated the enhancement of its methodological and functional components. The introduction of a universal procedural framework has ensured transparency and digital unification of competitive selection processes. The systematic accumulation and analysis of competition outcome data have made it possible to construct an up-to-date representation of Ukraine's scholarly research and partially innovation landscape. This evidence base has supported informed managerial decision-making regarding the strategic concentration of financial resources, which has constituted a key prerequisite for strengthening scholarly research, R&D, and innovation development.*

Conclusions. *The Competition Module of the System has successfully performed the function of a comprehensive electronic platform for administering competitive selections. Further efforts should focus on procedural unification and refinement to achieve full automation and to minimize researchers' transaction costs, thereby ensuring compliance with the principles of economic efficiency and transparency.*

Keywords: open science, grant, expertise, competitive selection, competitive financing, R&D activity, project, National Electronic Research Information System.

Competitive funding serves as a key instrument for implementing state policy in science, technology, and innovation, directly shaping the national research and innovation landscape and influencing the efficiency of public spending. Amid intensifying global competition and the need for European integration — particularly in alignment with programs such as *Horizon Europe* — the quality and objectivity of competitive selection procedures acquire strategic importance.

In Ukraine, in accordance with national legislation, funding for R&D activities allocated on a competitive basis is provided in priority areas of science and technology defined by law at the time of project selection. State competitive funding is also directed toward developing the scientific foundations of public policy, strengthening the material and technical base of research, fulfilling state orders, and implementing targeted government programs. It may be provided on a contractual basis and within the framework of international R&D cooperation [1]. The selection of research and R&D projects to be financed from the state budget, as well as the identification of their executors, is carried out through a competitive selection mechanism.

A central element of this mechanism is R&D evaluation (peer review), on the basis of which decisions on targeted support are made. Accordingly, the effectiveness and strategic soundness of allocating public funding critically depend on the quality of the competitive selection process and the objectivity and reliability of expert evaluation. This underscores the need to introduce transparent, standardized, and technologically advanced solutions to ensure proper oversight and control of these procedures.

State competitive funding of projects — including grants financed from the State Budget of Ukraine — has been awarded exclusively on the basis of R&D evaluation conducted within competitive selection procedures. The effectiveness of budgetary spending depends critically on the transparency and justification of these selection processes. As a fundamental instrument of state science policy, this mechanism ensures the targeted allocation of resources necessary for the formation and dynamic development of the country's research and innovation ecosystem.

Monitoring both the process and outcomes of competitive selections has become strategically critical, as it provides an evidence base for governance and development of the national research and innovation landscape and makes it possible as follows:

1) *to objectively assess the performance* of actors engaged in R&D activities — researchers, research institutions (RIs), and higher education institu-

tions (HEIs) — which provides a basis for validating organizational and methodological approaches;

2) *to substantiate further managerial decisions* and forecast trends in R&D and technology development over the medium and long term;

3) *to ensure the strategic concentration of resources*, as well as to develop evidence-based recommendations for state budget planning with regard to determining overall funding volumes for R&D activities and their distribution within competitive research funding schemes.

The relevance of funding allocation has also been emphasized by Lambros Roumbanis [2]. As the author notes, there is a general need for new ways of thinking about organizing the rational and equitable distribution of opportunities — particularly financial resources — within the spheres of knowledge, research, and the transfer of expertise in academic environments.

Competitive funding inherently incorporates a competitive component embedded in selection procedures. In most cases, these procedures are grounded in expert evaluation or peer review of project proposals.

Within competitive funding schemes, funding organizations and agencies, as noted in [2], expect the expert community to address complex issues related to assessing project prospects and forecasting the future success of their outcomes. In another study, Lambros Roumbanis [3] explicitly defines the purpose of expert evaluation as identifying the most outstanding and promising research projects.

At present, numerous studies examine selection processes based on expert evaluation, including models for ensuring high-quality peer review, optimizing the use of expert resources, and addressing problems and risks affecting the effectiveness of such selection decisions.

For example, study [2] states that a strong reliance on expert judgment in selection and ranking introduces an inherent element of irrationality, stemming from the impossibility of fully assessing the true potential of written proposals. Concerns about the reliability of proposal ranking in competitive research funding of large-scale research based on peer review are also noted in the work of Martin Dresler [4]. Study [3] further highlights a tendency for expert evaluation processes to favor solid, low-risk projects, thereby overlooking original and innovative proposals that entail higher levels of risk.

Empirical research on expert assessments conducted within panel groups remains relatively scarce. Among the obvious reasons are confidentiality requirements and secrecy provisions. Moreover, as noted in [3], *"Few researchers have been allowed entrance into the meeting rooms of national research councils or private funding agencies."* Nevertheless, the allocation of funding based on panel deliberations is widespread, including the use of such groups as a key stage in competitive selection procedures, particularly in contexts where the funding body retains influence over final decisions.

One of the most frequently identified challenges in expert panel decision-making is divergence in evaluations. For example, Marco Seeber, Jef Vlegels, Elwin Reimink, Ana Marušić, and David G. Pina [5] set out to examine which reviewer characteristics most strongly influence disagreements between reviewers, in contrast to most studies that focus primarily on proposal or applicant characteristics.

A comprehensive examination of these issues is provided by Gerald Schweiger, Adrian Barnett, Peter van den Besselaar, Lutz Bornmann, Andreas De Block, John P. A. Ioannidis, Ulf Sandström, and Stijn Conix [6], who discuss two principal models of grant peer review: independent review and standing panels with designated members. Among the major challenges identified are the difficulty of achieving consensus among reviewers, the indirect and uncertain relationship between peer review outcomes and scholarly research results, and concerns regarding the fairness embedded in established evaluation criteria.

It is also important to note that a number of sociological studies report limited trust among researchers in the objectivity of proposal review processes. Based on a large-scale survey, Liv Langfeldt, Ingvild Reymert, and Silje Marie Svartefoss [7]

conclude that reseachers tend to place significantly less trust in grant peer review than, for example, in journal peer review.

Scholarly attention has also been given to the number and structure of evaluations within a single competitive call — for instance, combining individual expert assessments at the first stage with panel review at the second stage — and to the completeness of materials provided for expert evaluation, such as through preliminary screening procedures. Reinhilde Veugelers, Jian Wang, and Paula Stephan [8] explain their findings by noting that the first stage of evaluation was conducted on the basis of a short summary of the proposed research and a curriculum vitae listing the applicant's principal publications. Their study examined applications for starting grants from the European Research Council (ERC), using a novelty indicator associated with high risk.

Beyond analyses of traditional peer review methods, the literature also proposes alternative strategies for allocating research funding. One option involves non-competitive review approaches grounded in open science practices [4]. There is also ongoing debate regarding the inclusion of randomized elements in grant allocation processes. For example, Jamie Shaw [9] proposes a preliminary taxonomy of lottery-based funding models and evaluates differentiated support for such mechanisms. Lambros Roumbanis [10], in his analysis of lottery-based funding models, argues against the use of partial lotteries and limited randomization mechanisms. Instead, he advocates a pure lottery approach coupled with a substantial increase in block funding, contending that this combination offers a more equitable and effective framework for research funding allocation. The principal rationale for this position is the difficulty of resolving inherent problems in peer-review-based competitive funding, including expert bias and the significant time costs involved [10].

Cost considerations are likewise emphasized by the authors in [6], who highlight the economic costs associated with organizing and administering competitive funding schemes, including decision-making processes and administrative expenditures.

RESEARCH OBJECTIVE

The objective of this study is to conduct a comprehensive assessment of the organizational and methodological framework supporting competitive selections of R&D projects within the National Electronic Scientific Information System. This includes modeling a universal procedure and analyzing the quantitative and qualitative characteristics of the data in order to substantiate the effectiveness of funding allocation and to formulate proposals for further improvement of the System.

The study addresses the following tasks:

- to carry out a logical-historical analysis of regulatory legal acts governing competitive selection procedures in order to identify the evolution of organizational and methodological requirements and to define a universal procedural framework suitable for digital implementation;
- to perform a functional analysis and modeling (using BPMN) of the operation of the Competition and Project Reporting Module (Competition Module) within the System, and to analyze its interaction and integration with other functional modules and external information systems to ensure full electronic document management;
- to analyze the information processes of competitive selections of R&D projects in order to assess the transparency and effectiveness of procedures conducted within the System;
- based on the findings, to substantiate the effectiveness of the implemented procedures and to formulate proposals for further refinement of organizational and methodological approaches aimed at minimizing risks and enhancing the quality of funding allocation.

The research begins with a logical-historical analysis of regulatory legal acts governing competitive selection procedures in order to identify the organizational and methodological requirements imposed on the System. The primary object of analysis, in historical retrospect, is the competitive selection of research and R&D (experimental) projects implemented by HEIs and RIs under the authority of the Ministry of Education and Science of Ukraine (MES) (the so-called Main Competition).

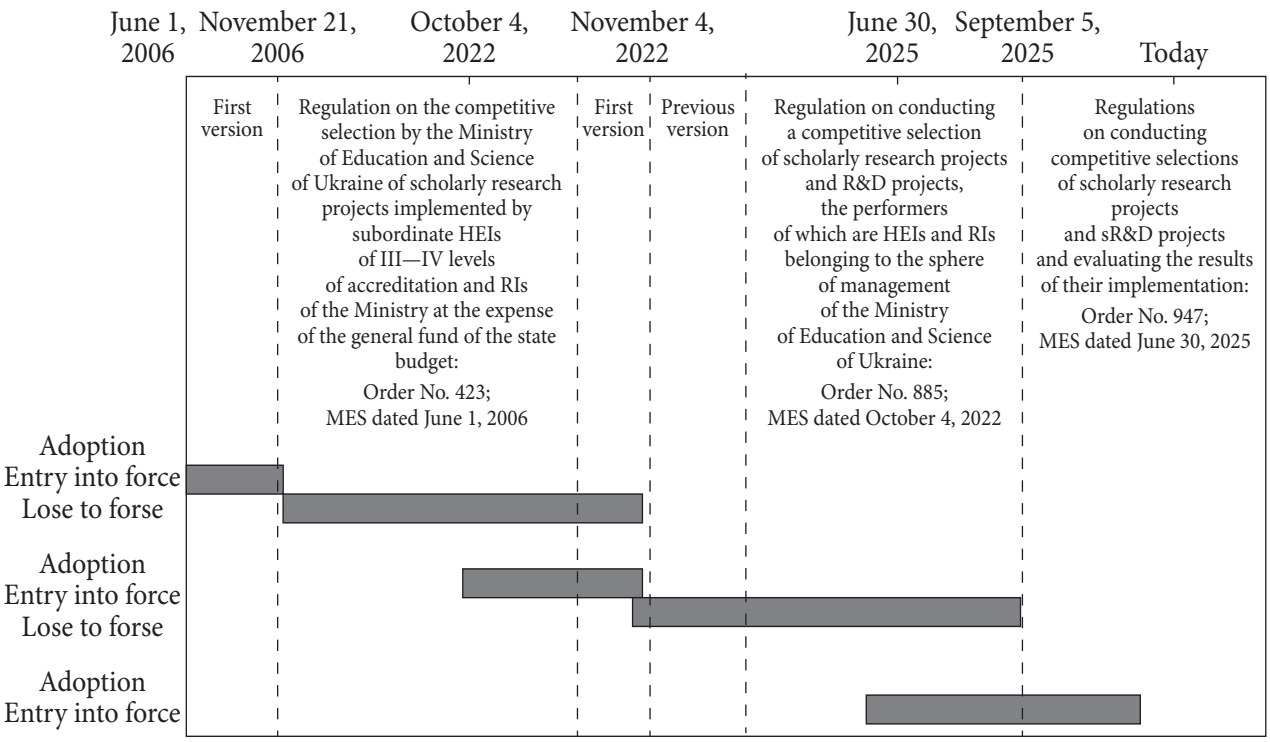


Fig. 1. Timeline of the principal regulatory legal act governing the competitive selection of R&D (experimental) projects (last 20 years)

The choice of this call as the baseline case is justified by its most extensive implementation within the System and by the evolution of its regulatory framework, which demonstrates a trend toward procedural unification. In particular, the evolution of the relevant regulatory acts resulted in the adoption of a universal document [11], which comprehensively defines not only the procedures for conducting such selections but also the mechanisms for evaluation of results and funding allocation simultaneously for two calls. These include the competitive selection of projects in fundamental research, applied research, and R&D (experimental) projects carried out by young researchers working (or studying) at HEIs and RIs under the authority of the MES (Competition for Young Researchers).

The analysis of the organizational and methodological support of competitive selection procedures reveals a consistent evolution in the functions of participants and in procedures at the level of HEIs and RIs, as reflected in successive amendments to the regulatory framework (Table 1).

The procedure for reviewing projects at the *first stage* (within HEIs/RIs) has also undergone significant changes, demonstrating a clear trend toward deregulation and the delegation of responsibility to the institutional level:

Initial stage [12]: The procedure was regulated in considerable detail, including the mandatory preparation of expert opinions by specialists — both internal and leading external experts from academic and sectoral RIs, as well as other enterprises and organizations — who were involved in project evaluation.

Initial [12] and transitional stage [13]: The requirement for preliminary review of projects at meetings of departments, laboratories, and other scientific structural units within HEIs or RIs remained mandatory.

Final stage (New regulatory act) [11]: Requirements were gradually simplified. In practice, only mandatory review by the Academic (Scientific) Council of the institution remained. The procedure for conducting this stage (with the exception of timelines) became regulated by internal administrative documents (orders) issued by the heads of the respective institutions.

The *second stage* of the competition, conducted at the MES, underwent the most substantial reorganization.

Under the initial regulatory act [12]: project registration was the responsibility of a designated unit; expert evaluation was conducted within specialized Sections; repeated reviews were permitted; a protocol containing conclusions on the evaluation results was formalized at a Section meeting, provided that more than 50% of its members were present; subsequently, the Council adopted decisions on competition results by majority vote based on these protocols and expert opinions; finally, an MES order was issued including the Council's decision.

Table 1. **Stages in the Evolution of the Regulatory Framework and Changes In Functional Responsibilities**

Parameter of change	Initial Regulation [12]	Transitional Regulation [13]	New Regulation [11]
Organizational and expert support	Structural unit of the MES (Unit), MES Scientific Council (Council), and the Council's sections by disciplinary fields (Sections)	MES (as organizer), Unit, Council, Sections, Commission on Expert Ethics (Commission)	MES, Unit, Council, Experts by scientific fields (Experts), Commission
Functions of the Unit	Coordination of research and development in subordinate institutions; participation in the Council through its Head	Clearly defined functions related to administering the competition; development of policies in the field of science; representation in the Council as Secretary	Functions aligned with new tasks related to the development and implementation of policies in the fields of science and innovation; representation in the Council as Secretary
Expert body (Level 1)	Sections of the Council by disciplinary fields	Sections of the Council by thematic areas	Experts by scientific fields (Sections abolished)
Expert body (Level 2)	MES Scientific Council	MES Scientific Council	MES Scientific and Expert Council
Format for submission of the document package	Paper-based document workflow	Electronic and paper-based submission	Electronic submission only (no paper copies)
Support system	Unified Information System "Science in Universities" (end of the period)	System, Competition Module	System, Enhanced Competition Module
Purpose of the changes	Basic organizational framework	Increasing the objectivity and independence of expert evaluation; prevention of conflicts of interest	Further standardization of procedures

Among the key differences introduced in the regulatory framework governing the 2023 and 2024 competitions conducted within the System [13], the following should be highlighted:

- following registration, projects were subject to compliance verification against the established competition requirements; however, the responsible body for this verification was not specified, although rejection decisions were made by the designated unit;
- expert evaluation was explicitly assigned to five experts per project, with the designated unit responsible for distributing projects among experts;
- prior to evaluation, experts were required to familiarize themselves with the Code of Conduct for Experts, although procedures for identifying and addressing violations by experts were not clearly defined;
- the calculation of the project's average expert score and the establishment of a passing threshold were introduced, although the algorithm for determining this threshold was not specified;
- approval of the Section's protocol containing proposals for the list of recommended projects, formed through rating-based voting within the Section.

Under the new regulatory document [11], the role of the Section has been eliminated, as noted above, and the competition procedure is now fundamentally based on expert evaluation. This evaluation is conducted by three experts under defined conditions; an additional review is permitted, but expert decisions are independent and final, and no mechanism for appealing evaluation results is foreseen.

Following registration, projects undergo two levels of screening: compliance with formal requirements, for which responsible officers of the designated Unit are assigned, and an internal review assessing the completeness and conformity of submitted materials with the current Regulation [11]. Some changes also affect the functions of the Council: decisions on competition results (formalized in a protocol) are prepared on the basis of project rankings generated from expert evaluation scores.

Overall, these changes in functions and procedures reflect a strategic orientation toward greater transparency and independence of expert evaluation through the establishment of an Ethics Commission and the transition to individual expert reviewers, as well as toward decentralization of preliminary selection procedures to the level of HEIs and RIs.

Most competitions have not been supported by information systems (e.g., bilateral calls). Previously, the unified information system *"Science in Universities"* was used to support such selection procedures. Its main features included: registration of project leaders (creation of a leader profile); user identification as a project leader through approval by an authorized officer of the research administration or another structural unit responsible for system support; maintenance of an author directory; internal data import only (e.g., importing leader data from profiles and author data from directories into project records); attachment of completed documents; in some cases, the absence of automatic calculation of quantitative indicators (e.g., statistical data on project participants) even when internal data were available; and manual entry of project approvals and first-stage evaluation results.

An example of successful international practice in supporting competitive selection procedures is the European Commission Funding & Tenders Portal [14]. Managed by the European Commission, the portal has a broad geographic scope extending beyond EU Member States and serves not only applicants and grant beneficiaries but also businesses seeking procurement opportunities, as well as experts, investors, and policymakers.

In Ukraine, covering such a wide spectrum of stakeholders requires a platform capable of supporting not only the organization and administration of individual calls but also the processes and procedures that constitute their prerequisites (identification of funding opportunities, attraction of investors), accompanying functions (formation of expert and professional support environments), and downstream outcomes (project

implementation, reporting, commercialization of results, and policy development).

The functionality of the EU Funding & Tenders Portal, managed by the European Commission, provides a comprehensive benchmark. It supports application submission, including the search for EU funding opportunities (calls for proposals), procurement opportunities, and collaboration partners; evaluation procedures, including eligibility screening, proposal assessment, and grant preparation and signature; grant management (financial administration, reporting, dissemination and exploitation of results, checks, and audits); development of an expert community not only for evaluating funding applications (including prizes and tenders) but also for project and contract monitoring and the provision of specialized advice; and, at minimum, information support on financial instruments.

Establishing a comparable platform in Ukraine requires the development of a broader ecosystem capable of ensuring the sustainable integration necessary to deliver such functionality, as exemplified by the EU portal.

It is also advisable to unify the procedural chain of competitive selection. Within the EU Funding & Tenders Portal, this chain includes the following components: user account creation; participant (organization) registration; proposal submission; eligibility verification; expert evaluation; specialized procedures (ethical review, security screening, ownership control checks); preparation of results; grant preparation; and final legal validation.

Thus, ensuring transparency, high quality, and scalability of competitive selection procedures, as well as effective monitoring of their results in the context of digitalization, requires a clear, user-friendly, and well-structured system of digital research services with a single access point and a developed network of interconnections. To this end, and in particular within the framework of the task to create a unified national research platform for Ukraine — identified as an operational objective for supporting the professional realization of Ukrainian researchers, their development, and integration into the global scientific community under the Action Plan for the Human Development Strategy 2021—2023 [15] — the System has been developed and put into operation.

The implementation of the System aligns with the strategic objectives of the National Open Science Plan [16]. In 2025, the System has been assigned the task of creating a unified database of the results of R&D activities. By 2026, it has been expected to ensure open access to research outputs and R&D information through the implementation of open-access principles across RIs and HEIs.

According to the Regulation [17] and the System Operating Procedures [18], the following external roles have been defined: the System Owner (the state represented by the MES), which delegates relevant authority to the Technical Administrator (the State Scientific and Technical Library of Ukraine), responsible for maintaining the System's functionality; the Competition Organizer (defined by the relevant regulatory acts governing specific calls, typically the Ministry); and Authorized Users (individuals with System accounts and defined access rights, including researchers, experts, and designated representatives of RIs and HEIs).

Figure 2 presents the universal competitive selection procedure. It has been modeled using BPMN 2.0 notation and reflects the key stages of electronic document workflow, including integration with both international and national third-party information systems. Figure 2 also illustrates the functional architecture supporting the Competition Module: System functional modules and external information systems currently in use (marked in green), partially utilized (yellow), and those with potential for future integration (red).

This universal scheme comprises the following key stages of project competitive selection implemented within the System environment: registration of responsible representatives of institutions (RIs and HEIs) and submission of applications for participation in a call; formal review of proposals (compliance with eligibility requirements and completeness of the documentation package); proposals that successfully pass the formal screening

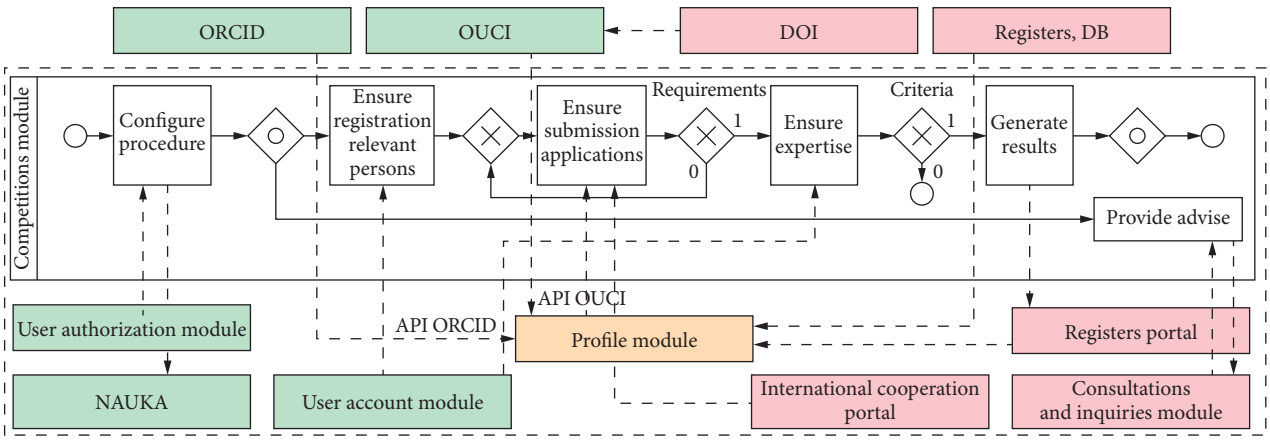


Fig. 2. Universal procedure for competitive selection (BPMN 2.0 notation), interaction between the System's functional modules, and transit integration with external information systems

are forwarded for expert evaluation through the automatic assignment of a defined number of experts (in accordance with the organizational and methodological requirements of the call), taking into account their respective scientific fields.

The appointment of experts is carried out with mandatory consideration of the absence of conflicts of interest, which constitutes a critical safeguard for ensuring procedural objectivity. Experts must confirm acceptance of the assigned proposals and conduct the evaluation directly within the System's electronic environment. Upon completion of the evaluations, an automatic verification is performed to assess compliance of the results with the criteria defined by the Competition Organizer (e.g., attainment of a minimum passing score or other quantitative thresholds).

This sequence of processes reflects the internal logic of the Competition Module, modeled by the System developers using BPMN notation and serving as the conceptual foundation for the module's implementation. The module is designed to be adaptable to each specific call, the characteristics of which are determined by the relevant regulatory acts governing procedures and mechanisms (e.g., requirements for specific documentation packages, multi-stage application submission, multi-level expert evaluation, and decision-making at different stages).

The electronic document workflow of the competitive selection procedure within the System is ensured through continuous interaction among the System's functional modules and integration with external information systems. In accordance with the Regulation on the System [17], the list of priority external information systems for integration includes, inter alia, international identifiers and registries: ORCID (Open Researcher and Contributor ID) for the identification of researchers; DOI (Digital Object Identifier) register, in particular through Crossref — for verification and identification of publications; and Research Organization Registry (ROR), coordinated by the California Digital Library, for the unique identification and registration of RIs.

It also includes national systems and registries: Open Ukrainian Scientific Content Initiative (OUCI), developed by the State Scientific and Technical Library of Ukraine; the National Repository of Academic Texts (NRAT); as well as certain state registries, including intellectual property registers and other governmental databases used for verification of data concerning entities engaged in scholarly research and R&D activities.

The Competition Module relies on the following core functional modules of the System:

- *User Authorization Module* assigns user roles and provides personalized access to the Competition Module;

- *User Accounts Module* grants authorized users access to the System's functional modules in accordance with assigned roles;
- *Profiles Module* is central to populating, importing, and verifying data on research actors and their outputs. It is used to import information from various information systems: researcher data (ORCID; potentially Scopus ID and Web of Science ID), institutional data (potentially via the integrated ROR), publications (DOI), and projects;
- the *National Portal for International R&D Cooperation* (International Cooperation Portal) may be used to export data on the participation of HEIs and RIs in international project calls (e.g., Horizon 2020, Horizon Europe, Euratom, and joint bilateral programmes);
- the *Portal of the National Electronic Scientific Information System* is used to publish information on competitive calls presented on the NAUKA Platform [19];
- the *Consultations and Requests Module* provides advisory services related to competitive procedures;
- the *the Portal of Registers in the Field of Science of Ukraine (Registers Portal)* ensures export and publication of official information, documents, and records on results.

Such an architecture ensures the transparency and reliability of data, which constitutes a fundamental prerequisite for objective expert support of competitive selection procedures.

Over three years, 19 calls have been conducted in the System using the Competition Module, two of which remain ongoing:

- *in 2023:* two competitive selections for fundamental research, applied research, and R&D (experimental) works (main competition and a competition for young researchers).
- *in 2024:* nine calls, including three competitive selections for fundamental research, applied research, and R&D (experimental) works (main competition, young researchers, and state-commissioned projects); one call for innovation activities (start-ups); two scholarship competitions (Cabinet of Ministers of Ukraine; of Heroes of the Heavenly Hundred); and three calls within the framework of international R&D cooperation (reimbursements; Ukrainian — Austrian; Ukrainian — Latvian);
- *in 2025:* eight calls, including four competitive selections for fundamental research, applied research, and R&D (experimental) works (main competition; young researchers; state-commissioned projects — two stages); two scholarship competitions (Cabinet of Ministers of Ukraine; of Heroes of the Heavenly Hundred); and two calls within the framework of international R&D cooperation (Ukrainian — Lithuanian; Ukrainian — Slovak).

The Main Competition and the Competition for Young Researchers have been consistently supported within the System over the past three years. In 2023 and 2024, the System implemented specific procedures defined in the Regulations approved by Orders of the MES No. 885 of October 4, 2022 [13] and No. 1287 (as amended on July 8, 2022) [20]. The calls announced in 2025 are conducted in accordance with the new "Regulation on Conducting Competitive Selections of Research and R&D (Experimental) Projects and Evaluation of Their Results," approved by Order No. 947 of June 30, 2025 [11].

A significant step toward improving the organizational and methodological framework of competitive procedures in 2025 has been the full unification of regulatory acts for the Main Competition and the Competition for Young Researchers. This has enabled both selections to be implemented under a single, unified procedure within the System's electronic environment.

In 2023, 768 application forms were created within the Main Competition in the System. In 2024, 966 forms were processed, of which 655 were submitted for expert evaluation. In 2025, 891 applications were registered; 816 were accepted by the Ministry; it is planned that 258 projects will receive funding support, including 78 under the frontline competition scheme. A similar trend is observed for the Competition for Young Researchers: in 2023 —

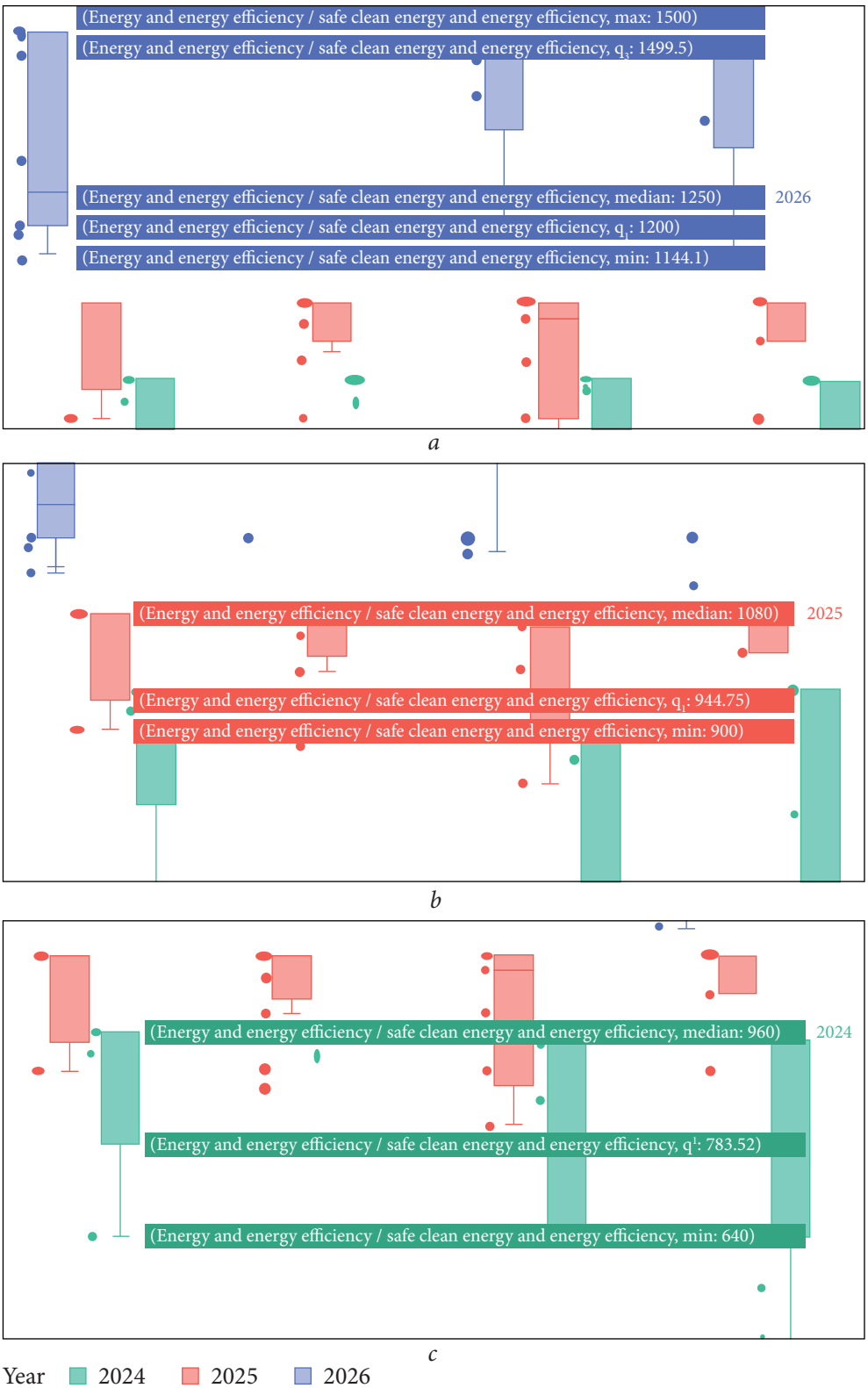


Fig. 3. Main Competition 2023, 2024, 2025 — box plots of total funding for the first stage by year and by section groups, based on the designated section according to: *a* — request (2026); *b* — decision of the Scientific Council of the MES (90%, 2025); *c* — decision of the Scientific Council (2024)

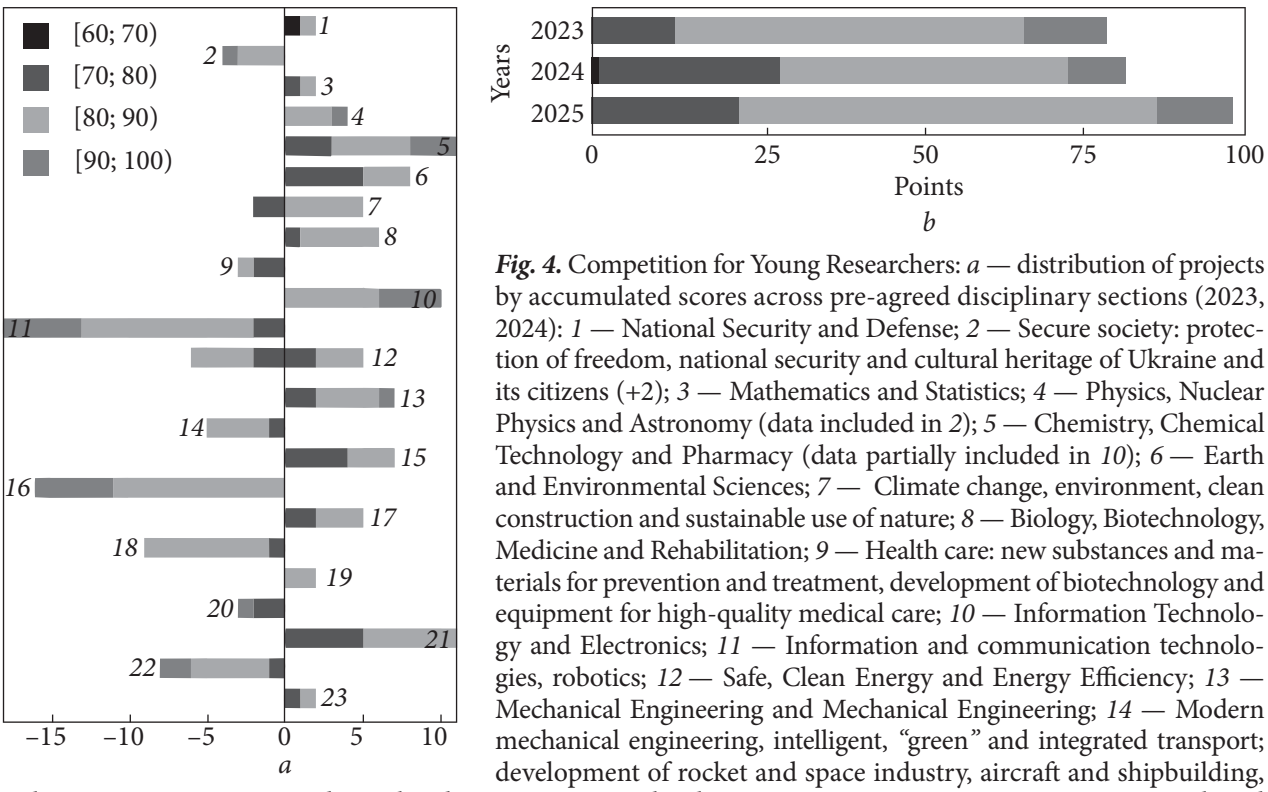


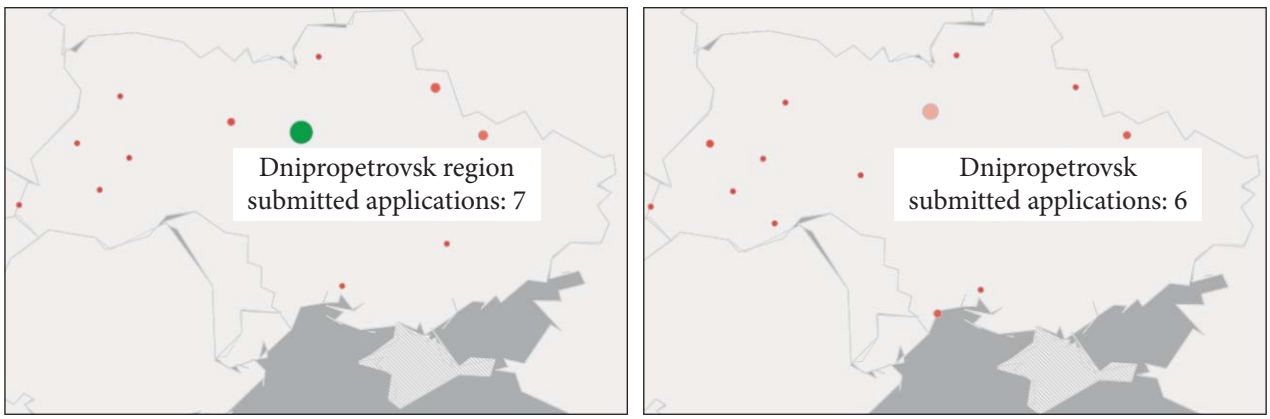
Fig. 4. Competition for Young Researchers: *a* — distribution of projects by accumulated scores across pre-agreed disciplinary sections (2023, 2024): *1* — National Security and Defense; *2* — Secure society: protection of freedom, national security and cultural heritage of Ukraine and its citizens (+2); *3* — Mathematics and Statistics; *4* — Physics, Nuclear Physics and Astronomy (data included in *2*); *5* — Chemistry, Chemical Technology and Pharmacy (data partially included in *10*); *6* — Earth and Environmental Sciences; *7* — Climate change, environment, clean construction and sustainable use of nature; *8* — Biology, Biotechnology, Medicine and Rehabilitation; *9* — Health care: new substances and materials for prevention and treatment, development of biotechnology and equipment for high-quality medical care; *10* — Information Technology and Electronics; *11* — Information and communication technologies, robotics; *12* — Safe, Clean Energy and Energy Efficiency; *13* — Mechanical Engineering and Mechanical Engineering; *14* — Modern mechanical engineering, intelligent, "green" and integrated transport; development of rocket and space industry, aircraft and shipbuilding, military equipment; *15* — Industrial and Construction Technologies, Logistics, Transport; *16* — New materials and production technologies (+2, +4); *17* — Agricultural and Veterinary Sciences; *18* — Food security, resource-saving agriculture and forestry, research of marine, coastal and inland waters, bioeconomy; *19* — Human Capital Development, Social Sciences and Journalism; *20* — Ukraine in a changing world: inclusive, innovative, thinking society (+6); *21* — Economic Transformation, Business, Administration and Law; *22* — Economic transformations, demographic changes and well-being; *23* — Humanities and Arts (data partially included in *8*); *b* — distribution of projects by score intervals (2023—2025)

147 applications; in 2024 — 168 submitted for review out of 276; in 2025 — 239 out of 248 submitted, with 99 projects planned for support.

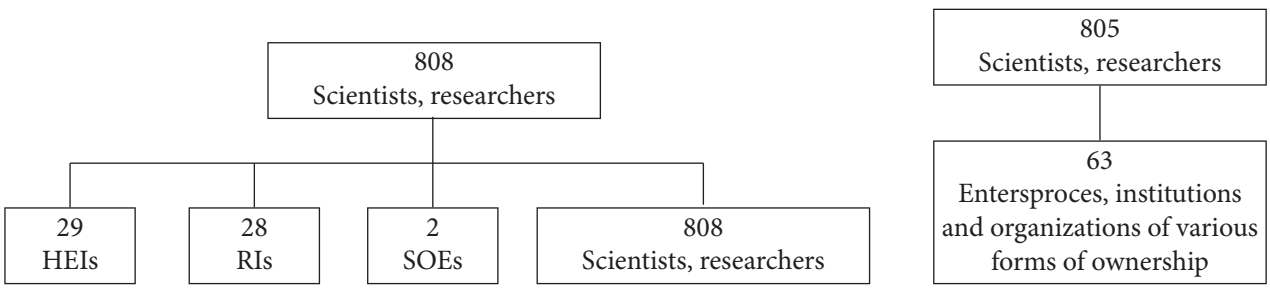
To analyze the financial component of the Main Competition results, taking into account cumulative data, a specially designed interactive environment has been developed, with the prospect of its integration into the analytical component of the Competition Module (Fig. 3). This environment enables a comprehensive descriptive statistical assessment (maximum and minimum values, quantiles, including the median for the statistical population sample) of competition outcomes. Year-to-year comparison of data is possible only upon prior harmonization of the lists of sections of the Scientific Council of the Ministry across the observation years [21—23].

The results of the 2023 and 2024 Competitions for Young Researchers [24, 25] were analyzed simultaneously across three parameters: the number of projects, scores received, and pre-agreed disciplinary section assignments (Fig. 4, *a*). This integrated approach to comparing outcomes over multiple years enabled adjustments to the funding policy for specific research areas in subsequent periods.

Key observations from the relevant years include: out of a total of 161 projects, only one climate-focused project was conducted at RI; the security section was minimally represented and recorded



a



b

Fig. 5. State Order Competition, 2024—2025 (first round): *a* — cartograms of applications registered in the System; *b* — organizational charts of participating

the lowest score, while "Mathematics and Statistics," "Human Capital Development, Social Sciences, and Journalism," and "Humanities and Arts" were among the sections in the 2024 competition.

However, the published results of the 2025 Competition for Young Researchers [26] no longer include section information, though financial data for the first stage is available, which allows future analysis by year. Consequently, a comprehensive three-year comparison is currently possible only by score intervals (Fig. 4, *b*).

According to the procedure defined in the MES order of 09.02.2017 No. 192 [27], in 2024 the System conducted, and in 2025 completed, the main competition (95 [94] proposals submitted) and continues the additional competition (24 applications accepted by the Ministry) for state-funded R&D (experimental) projects (State Order Competition). Institutions under central executive authorities accounted for nearly 76.9% of all first-round submissions, including about 59.6% under the MES less than 21.3% under the National Academy of Sciences of Ukraine, and some national sectoral academies of sciences. The geographic distribution of registered applications does not cover all economic regions of Ukraine, as shown in Fig. 5, *a*. Figure 5, *b* visualizes the number of researchers involved from the respective institutions.

According to official data from the MES website, in 2024 the System registered 219 applications, including technical tasks. Of these, 109 were submitted to the Ministry for review, 327 expert evaluations were conducted, and based on results approved by the Cabinet of Ministers of Ukraine Order No. 38-p of 17.01.2025 [28], 22 R&D (expe-

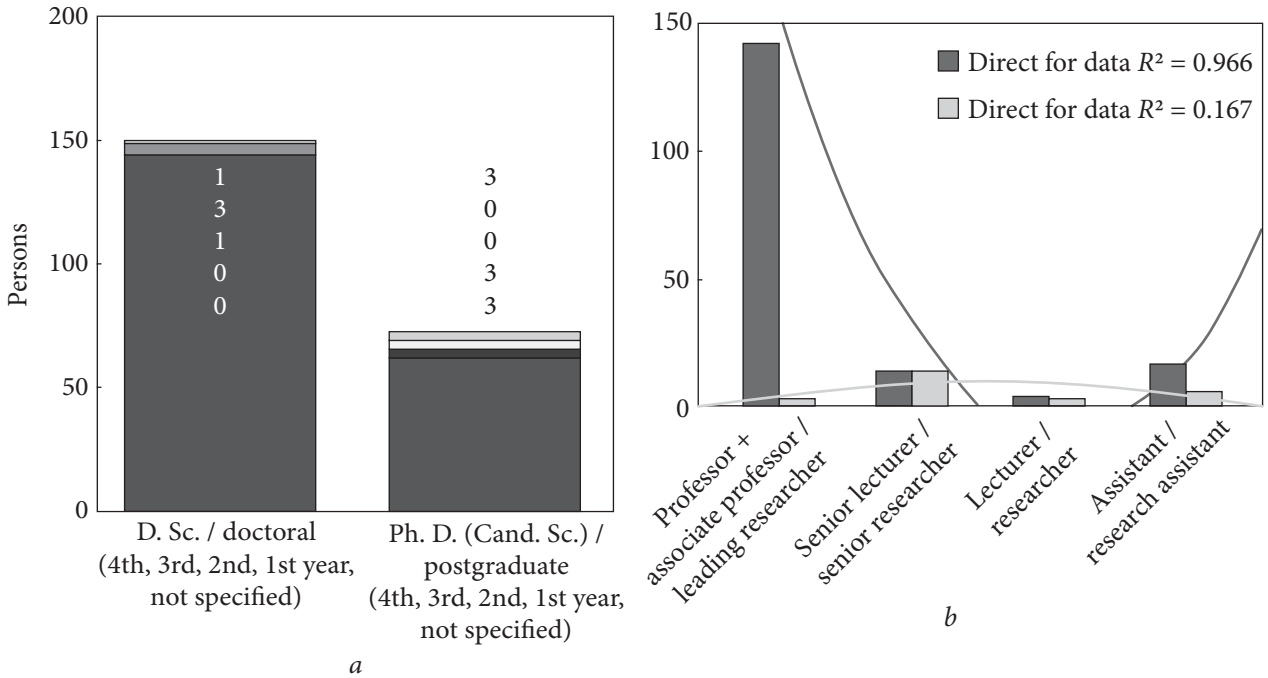


Fig. 6. CMU Scholarship Competition, 2024: *a* — distribution of scholarship recipients by academic degree and years of doctoral/postgraduate training; *b* — distribution of scholarship recipients among R&D and pedagogical staff

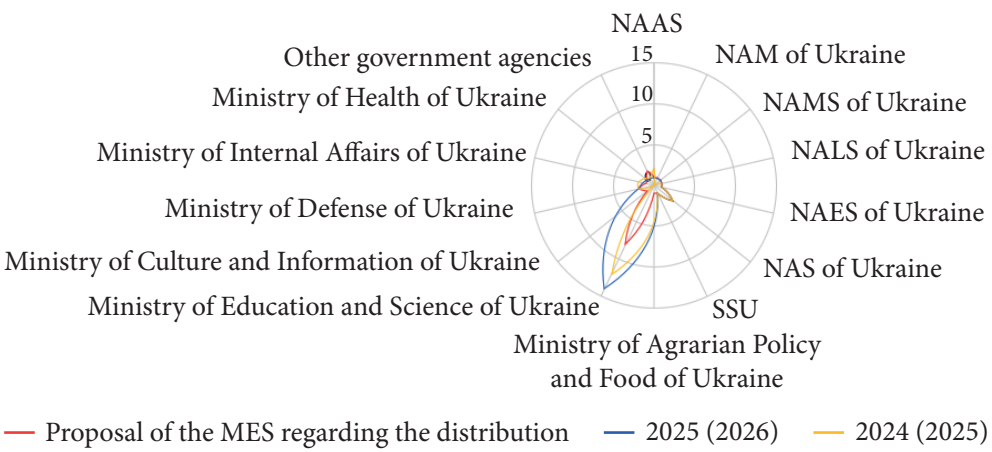


Fig. 7. Heavenly Hundred Heroes Scholarship Distribution in 2024—2025

rimental) projects were recommended for funding, with a total allocation of UAH 186,794.25 thousand. In 2025, 282 expert evaluations were conducted, 14 projects were recommended for funding, with a total financing volume of UAH 116.9 million (Cabinet of Ministers of Ukraine Order No. 1489-p of 24.12.2025 [29]).

The System was also used to submit applications for the Cabinet of Ministers of Ukraine Scholarships (CMU Scholarships Competition) to the Ministry in 2024 (251 applications received) and 2025 (187 applications received, 70 sent for review). Figure 6, *a* shows the distribution of scholarship recipients based on the Ministry's Collegium recom-

mendations, for example, approved by MES Order No. 1532 of 28.10.2024 [30], which assigned 234 scholarships from November 2024 to October 2026. Data are broken down by academic degree, including doctoral and postgraduate students (by year, including unspecified data), to: (1) track not only recipients' indicators by academic degree but also the potential for growth; and (2) enable monitoring of trends over time as new results are incorporated.

In Fig. 6, *b*, the distribution of scholarship recipients among scholarly research and pedagogical staff is shown comparatively to track trends in positions held by participants in the respective fields.

For two consecutive years, the System has conducted the competition for state-named scholarships awarded to the best young researchers in commemoration of the Revolution of Dignity and in honor of the Heavenly Hundred Heroes (Heavenly Hundred Heroes Competition). In 2024, 109 application packages were submitted, 77 of which were forwarded to the selection committee; in 2025, 93 applications were submitted, and 91 applicants were accepted by the Ministry.

According to the Cabinet of Ministers of Ukraine Resolution, as amended on 02.09.2022 [31], the regulations specify that 25 scholarships are awarded annually across 5 categories. The document also includes the Ministry's proposals for distributing scholarships among state bodies, the National Academy of Sciences of Ukraine, and national sectoral academies of sciences [31, annex], as illustrated in Fig. 7.

Based on the results of the 2024—2025 Heavenly Hundred Heroes Competition [32, 33] conducted in the System, three ministries and two sectoral academies are not represented in the distribution. In 2024, one sectoral academy and two ministries exceeded their allocations, with a significant overrepresentation observed in the MES for both 2024 and 2025.

To support innovation activities, the System conducted a competitive selection of R&D projects aimed at promoting the innovation capacity of HEIs and RIs in order to determine which HEIs and

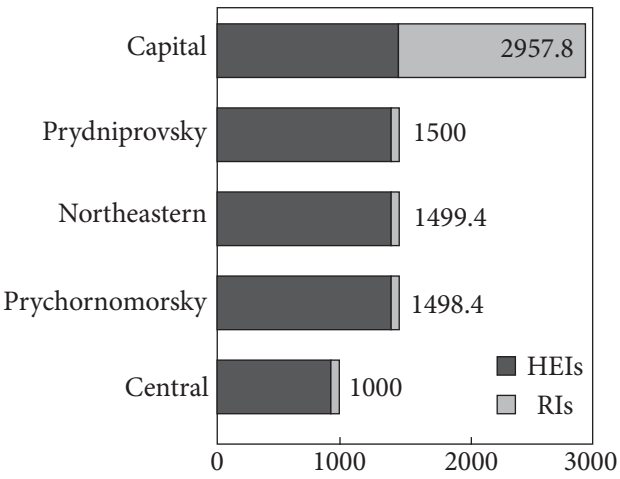


Fig. 8. Total funding volume by economic region and type of institution (Competition for the network of startup schools — incubators — accelerators, 2024)

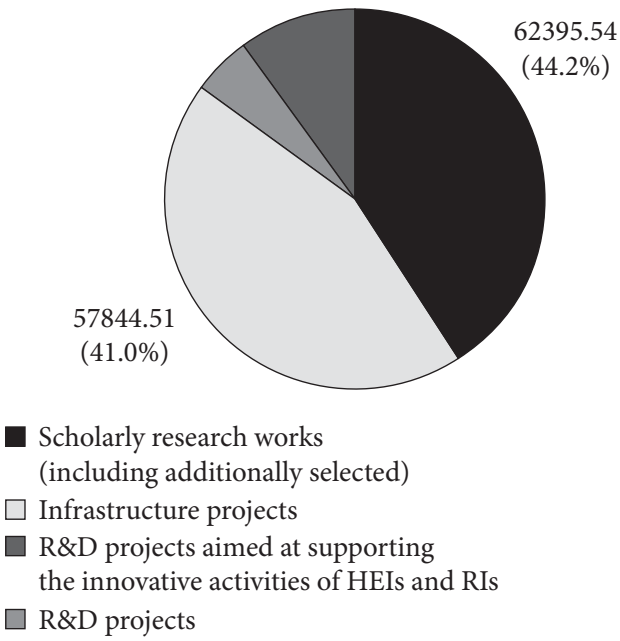


Fig. 9. Distribution of funding volumes by program area (Reimbursement Competition, 2024)

RIs will host a network of startup schools — incubators — accelerators (Competition for the network of startup schools — incubators — accelerators).

The Procedure for Implementing the Experimental Project to Establish a Network of Startup

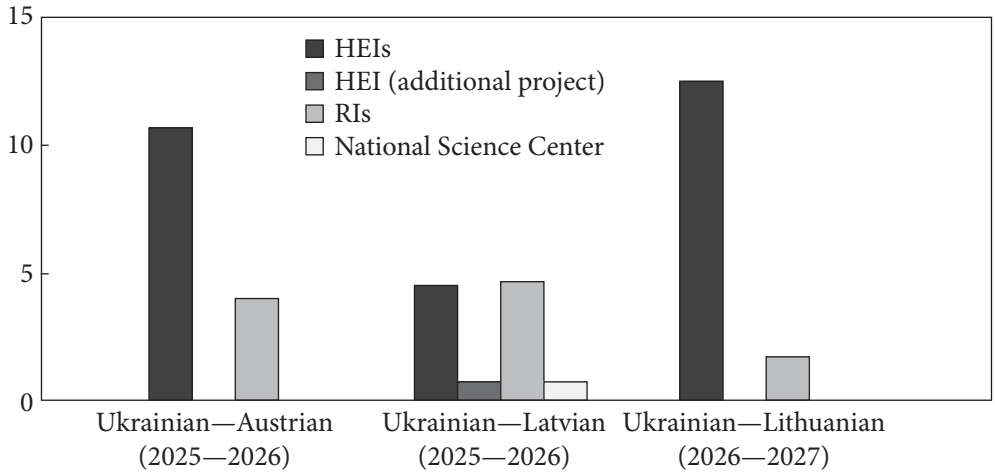


Fig. 10. Distribution of projects by type of institution (Bilateral Cooperation, 2024—2025)

Schools — Incubators — Accelerators at HEIs and RIs, approved by the Cabinet of Ministers of Ukraine Resolution No. 430 of 23.04.2024 [34], does not specify the system that will manage the competition but notes that such information will be provided in the announcement.

For the implementation of this competition in 2024, 98 applications were created in the System, 30 of which were submitted to the MES for review. As a result, six R&D projects aimed at supporting the innovation activities of HEIs and RIs were recommended for funding [35]. The list of institutions selected to host the network of startup schools includes only one RI, which accounts for 17.2% of the total recommended funding, with a project execution period from 2024 to 2026.

Overall, project funding is provided from the special fund of the state budget, sourced from external EU assistance instruments supporting Ukraine's participation in EU Framework Programmes for Research and Innovation (FP). The support for innovation activities is presented in the graph according to economic regions to enable analysis of coverage (Fig. 8).

To encourage participation in the EU Framework Programmes in 2024, the System conducted a competitive selection of R&D works, and projects funded through the EU external assistance instrument to fulfill Ukraine's obligations under Horizon 2020 (Reimbursement Competition). In the regulation approved by the Cabinet of Ministers of Ukraine on 28.02.2024, the procedure for the competition is not explicitly defined within the System, but it is noted that the method of document submission may be specified in the announcement [36, para. 19, sentence 3].

During the competition period, 213 forms were created in the System, of which 106 were submitted to the MES for review. Based on the results, final recommendations for funding identified 25 main projects and 7 additional projects for financing [37].

The highest average funding was allocated to infrastructure projects, with over 11,500 UAH per project, while funding for R&D projects ranged from 2,100 to 3,300 UAH per project. The largest share of funding went to projects under direction 2.1 "Scholarly Research Works," while the smallest — 4.5% — was allocated to three projects under direction 2.2 "R&D projects" (Fig. 9).

Within the framework of bilateral international R&D cooperation, in 2024 the System conducted competitions for joint Ukrainian-Latvian (152 forms created, 64 submitted to the MES for review, 11 + 1 additional reserve projects selected for funding) and Ukrainian-Austrian (47 forms, 19 under review, 15 selected for funding) research projects, scheduled for implementation in 2025—2026. Ac-

cording to the results [38, 39], among the Ukrainian executing institutions, HEIs account for the largest share: 73.3% in the Ukrainian-Austrian projects and 40% in the Ukrainian-Latvian projects (Fig. 10).

In 2025, the System conducted a competition for joint Ukrainian-Lithuanian research projects to be implemented in 2026—2027 (79 applications accepted by the MES, 15 projects selected for funding [40], see Fig. 10), while the joint Ukrainian-Slovak competition remained active (84 applications submitted to MES, 79 accepted).

As a result of the comprehensive study and evaluation of the organization of competitive funding for R&D projects within the National Electronic Scientific Information System, it was established that, under critical strategic challenges for national science — such as the outflow of R&D personnel and the need to increase the knowledge intensity of production — the issue of forming and reforming policies balancing baseline and competitive funding becomes critically important. The main challenges that require resolution remain the reliability of decision-making processes in competition results, their transparency, the optimization of economic costs for organizing competitions, and the predictive validity of outcomes.

This comprehensive study, which included a logical-historical analysis of regulatory acts and functional modeling (BPMN) of a universal competitive procedure, led to the identification of key organizational-methodological risks in ensuring competitive selection within the System and the following key conclusions:

1. The Competition Module, developed within the National Electronic Scientific Information System, successfully functions as a comprehensive electronic platform for competitive selection processes. The module is designed with the necessary versatility, allowing further adaptation for each specific competition. Full electronic document management is achieved through effective interaction and integration of the Competition Module with other functional modules of the System and external information systems.

2. A logical-historical analysis of the regulatory acts governing competitive selection procedures identified a key organizational and methodological risk: the ongoing need to adapt the functionality of the Competition Module, driven by the varying requirements of different competitions, requires regular intervention by developers and continuous adjustment of system integration during the launch of individual competitions. This highlights a systemic tension between the need for standardization of the platform's information technologies and the dynamic and fragmented nature of the regulatory framework. This necessity underscores the risk of increased transaction costs for the Technical Administrator and critically calls for further unification of regulatory acts and methodological requirements.

3. Analysis of information processes and real-time data accumulation enables effective monitoring of competition outcomes. Visualization of competitive selections ensures transparency in decision-making processes, which is a key indicator of the effectiveness of procedures conducted within the System. This capability provides a strategic basis for informed management decisions and facilitates forecasting of scientific development trends for the strategic allocation of resources, including financial ones.

4. Based on the collected data, the effectiveness of the competition procedures implemented within the System has been substantiated. To minimize risks and improve the quality of funding allocation, further refinement of organizational and methodological approaches should focus on the final unification of computational modules to achieve full automation and further reduce the administrative burden on researchers.

REFERENCES

1. About Scientific and Scientific-Technical Activities. Zakon Ukrainy 848-VIII (2015). URL: https://zakon.rada.gov.ua/go/848-19 (Last accessed: 28.01.2026).

2. Roumbanis, L. (2021). The oracles of science: On grant peer review and competitive funding. *Social Science Information*, 60(3), 356—362. https://doi.org/10.1177/05390184211019241
3. Roumbanis, L. (2021). Disagreement and Agonistic Chance in Peer Review. *Science, Technology,* & *Human Values*, 47(6), 1302-1333. https://doi.org/10.1177/01622439211026016
4. Dresler, M. (2023), FENS-Kavli Network of Excellence: Postponed, non-competitive peer review for research funding. *Eur. J. Neurosci*, 58, 4441—4448. https://doi.org/10.1111/ejn.15818
5. Seeber, M., Vlegels, J., Reimink, E., Marušić, A., Pina, G. D. (2021). Does reviewing experience reduce disagreement in proposals evaluation? Insights from Marie Skłodowska-Curie and COST Actions. *Research Evaluation*, 30(3), 349—360. https://doi.org/10.1093/reseval/rvab011
6. Schweiger, G., Barnett, A., van den Besselaar, P., Bornmann, L., De Block, A., Ioannidis, J. P. A., Sandström, U., Conix, S. (2024). The costs of competition in distributing scarce research funds. *Proc. Natl. Acad. Sci. U.S.A.*, 121(50), e2407644121. https://doi.org/10.1073/pnas.2407644121
7. Langfeldt, L., Reymert, I., Svartefoss, S. M. (2024). Distrust in grant peer review — reasons and remedies. *Science and Public Policy*, 51(1), 28—41. https://doi.org/10.1093/scipol/scad051
8. Veugelers, R., Wang, J., Stephan, P. (2025). Do funding agencies select and enable novel research: evidence from ERC. *Economics of Innovation and New Technology*, 1—18. https://doi.org/10.1080/10438599.2025.2486344
9. Shaw, J. (2023). Peer review in funding-by-lottery: A systematic overview and expansion. *Research Evaluation*, 32(1), 86—100. https://doi.org/10.1093/reseval/rvac022
10. Roumbanis, L. (2024). New Arguments for a *pure lottery* in Research Funding: A Sketch for a Future Science Policy Without Time-Consuming Grant Competitions. *Minerva,* 62, 145—165. https://doi.org/10.1007/s11024-023-09514-y
11. On approval of the Regulations on conducting competitive selections of scientific research projects and scientific and technical (experimental) developments and evaluating the results of their implementation. Order of the Ministry of Education and Science of Ukraine 947 (2025). URL: https://zakon.rada.gov.ua/go/z1131-25 (Last accessed: 28.01.2026).
12. On approval of the Regulations on conducting competitive selection by the Ministry of Education and Science of Ukraine of scientific projects that are implemented by subordinate higher educational institutions of III—IV levels of accreditation and scientific institutions of the Ministry at the expense of the general fund of the state budget. Order of the Ministry of Education and Science of Ukraine 423 (2006). URL: https://zakon.rada.gov.ua/go/z1196-06 (Last accessed: 28.01.2026).
13. On approval of the Regulations on conducting competitive selections of scientific research projects and scientific and technical (experimental) developments, the performers of which are higher education institutions and scientific institutions that belong to the sphere of management of the Ministry of Education and Science of Ukraine. Order of the Ministry of Education and Science of Ukraine 885 (2022). URL: https://zakon.rada.gov.ua/go/z1238-22 (Last accessed: 28.01.2026).
14. EU Funding & Tenders Portal. URL: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home (Last accessed: 28.01.2026)
15. On approval of the action plan for the implementation of the Human Development Strategy for 2021—2023. Order of the Cabinet of Ministers of Ukraine 1617-p (2021). URL: https://zakon.rada.gov.ua/go/1617-2021-%D1%80 (Last accessed: 28.01.2026).
16. On approval of the national plan for open science. Order of the Cabinet of Ministers of Ukraine 892-p (2022). URL: https://zakon.rada.gov.ua/go/892-2022-%D1%80 (Last accessed: 28.01.2026).
17. On approval of the Regulation on the National Electronic Scientific Information System. Resolution of the Cabinet of Ministers of Ukraine 1067 (2022). URL: https://zakon.rada.gov.ua/go/1067-2022-%D0%BF (Last accessed: 28.01.2026).
18. On approval of the Procedure for the National Electronic Scientific Information System. Order of the Ministry of Education and Science of Ukraine 10 (2024). URL: https://zakon.rada.gov.ua/go/z0323-24 (Last accessed: 28.01.2026).

19. NAUKA: National Electronic Scientific Information Syste. URL: https://nauka.gov.ua/ (Last accessed: 28.01.2026).
20. On approval of the Regulation on the holding by the Ministry of Education and Science of Ukraine of the Competition for projects of fundamental scientific research, applied scientific research and scientific and technical (experimental) developments of young scientists who work (study) in higher education institutions and scientific institutions under the jurisdiction of the Ministry, further implementation of these research and developments at the expense of the general fund of the state budget and their management. Order of the Ministry of Education and Science of Ukraine 1287 (2015). URL: https://zakon.rada.gov.ua/go/z0015-16 (Last accessed: 28.01.2026).
21. On approval of the list of projects of fundamental scientific research, applied scientific research and research projects containing information with restricted access, implemented by higher education institutions and scientific institutions under the jurisdiction of the Ministry of Education and Science of Ukraine, which have passed a competitive selection and whose financing will begin in 2026 at the expense of the State Budget of Ukraine. Order of the Ministry of Education and Science of Ukraine 23 (2026). URL: https://mon.gov.ua/npa/pro-zatverdzhennia-pereliku-proiektiv-fundamentalnykh-naukovykh-doslidzhen-prykl?v=69611cc35359a (Last accessed: 28.01.2026).
22. On approval of the list of projects of fundamental scientific research, applied scientific research, implemented by higher education institutions and scientific institutions under the jurisdiction of the Ministry of Education and Science of Ukraine, which have passed a competitive selection and whose financing will begin in 2025 at the expense of the State Budget of Ukrain. Order of the Ministry of Education and Science of Ukraine 369 (2025). URL: https://mon.gov.ua/npa/pro-zatverdzhennia-pereliku-proiektiv-fundamentalnykh-naukovykh-doslidzhen-prykladnykh-naukovykh-doslidzhen-vykonavtsiamy-iakykh-ie-zaklady-vyshchoi-osvity-ta-naukovi-ustanovy-shcho-nalezhat- (Last accessed: 28.01.2026).
23. On approval of the list of projects of fundamental scientific research, applied scientific research, scientific and technical (experimental) developments, implemented by higher education institutions and scientific institutions under the jurisdiction of the Ministry of Education and Science of Ukraine, which have passed a competitive selection and whose financing will begin in 2024 year at the expense of the State Budget of Ukraine. Order of the Ministry of Education and Science of Ukraine № 1572 (2023). URL: https://mon.gov.ua/npa/pro-zatverdzhennya-pereliku-proyektiv-fundamentalnih-naukovih-doslidzhen-prikladnih-naukovih-doslidzhen-naukovo-tehnichnih-eksperimentalnih-rozrobok-vikonavcyami-yakih-ye-zakladi-vishoyi-osvi (Last accessed: 28.01.2026).
24. On approval of the list of projects of fundamental scientific research, applied scientific research and scientific and technical (experimental) developments of young scientists who work (study) in higher education institutions and scientific institutions under the jurisdiction of the Ministry of Education and Science of Ukraine, which have passed competitive selection and whose financing will begin in 2025 at the expense of the State Budget of Ukraine. Order of the Ministry of Education and Science of Ukraine 1801 (2024). URL: https://mon.gov.ua/npa/pro-zatverdzhennia-pereliku-proiektiv-fundamentalnykh-naukovykh-doslidzhen-prykladnykh-naukovykh-doslidzhen-ta-naukovo-tekhnichnykh-eksperymentalnykh-rozrobok-molodykh-vchenykh-iaki-pratsiuiu (Last accessed: 28.01.2026).
25. On approval of the list of projects of fundamental scientific research, applied scientific research and scientific and technical (experimental) developments of young scientists who work (study) in higher education institutions and scientific institutions under the jurisdiction of the Ministry of Education and Science of Ukraine, which have passed competitive selection and whose financing will begin in 2024 at the expense of the State Budget of Ukraine. Order of the Ministry of Education and Science of Ukraine 1569 (2023). URL: https://mon.gov.ua/npa/pro-zatverdzhennya-pereliku-proyektiv-fundamentalnih-naukovih-doslidzhen-prikladnih-naukovih-doslidzhen-ta-naukovo-tehnichnih-eksperimentalnih-rozrobok-molodih-vchenih-yaki-pracyuyut-navchayu (Last accessed: 28.01.2026).
26. On approval of the list of projects of fundamental scientific research, applied scientific research and scientific and technical (experimental) developments of young scientists working (studying) in higher education institu-

tions and scientific institutions under the jurisdiction of the Ministry of Education and Science of Ukraine, which have passed the competitive selection, the financing of which will begin in 2026 at the expense of the State Budget of Ukraine. Order of the Ministry of Education and Science of Ukraine 22 (2026). URL: https://mon.gov.ua/npa/pro-zatverdzhennia-pereliku-proiektiv-fundamentalnykh-naukovykh-doslidzhen-prykladnykh-nauko?v=69611b7029093 (Last accessed: 28.01.2026).

27. On approval of the Regulation on conducting by the Ministry of Education and Science of Ukraine a competitive selection of scientific and technical (experimental) developments under a state order. Order of the Ministry of Education and Science of Ukraine 192 (2017). URL: https://zakon.rada.gov.ua/go/z0339-17 (Last accessed: 28.01.2026).
28. On approval of the list of scientific and technical (experimental) developments within the framework of the implementation of a state order for the most important scientific and technical (experimental) developments and scientific and technical products in 2025—2026. Order of the Cabinet of Ministers of Ukraine 38-p (2025). URL: https://zakon.rada.gov.ua/go/38-2025-%D1%80 (Last accessed: 28.01.2026).
29. On approval of the list of scientific and technical (experimental) developments within the framework of the implementation of the state order for the most important scientific and technical (experimental) developments and scientific and technical products in 2026—2027. Order of the Cabinet of Ministers of Ukraine 1489-p (2025). URL: https://zakon.rada.gov.ua/go/1489-2025-%D1%80 (Last accessed: 28.01.2026).
30. On recommendations for the award of scholarships of the Cabinet of Ministers of Ukraine for young scientists. Order of the Ministry of Education and Science of Ukraine 1532 (2024). URL: https://mon.gov.ua/npa/pro-rekomendatsii-shchodo-pryznachennia-stypendii-kabinetu-ministriv-ukrainy-dlia-molodykh-vchenykh (Last accessed: 28.01.2026).
31. On state named scholarships to the best young scientists to perpetuate the events of the Revolution of Dignity and honor the feat of the Heroes of Ukraine — Heroes of the Heavenly Hundred. Resolution of the Cabinet of Ministers of Ukraine 1017 (2018). URL: https://zakon.rada.gov.ua/go/1017-2018-%D0%BF (Last accessed: 28.01.2026).
32. On the award of state named scholarships to the best young scientists to perpetuate the events of the Revolution of Dignity and honor the feat of the Heroes of Ukraine — Heroes of the Heavenly Hundred for 2025. Order of the Ministry of Education and Science of Ukraine 1639 (2024). URL: https://mon.gov.ua/npa/pro-pryznachennia-derzhavnykh-imennykh-stypendii-naikrashchym-molodym-vchenym-dlia-uvichnennia-podii-revoliutsii-hidnosti-ta-vshanuvannia-podvyhu-heroiv-ukrainy-heroiv-nebesnoi-sotni-na-2025- (Last accessed: 28.01.2026).
33. On the award of state named scholarships to the best young scientists to perpetuate the events of the Revolution of Dignity and honor the feat of the Heroes of Ukraine — Heroes of the Heavenly Hundred for 2026. Order of the Ministry of Education and Science of Ukraine 1534 (2025). URL: https://mon.gov.ua/npa/pro-pryznachennia-derzhavnykh-imennykh-stypendii-naikrashchym-molodym-vchenym-dlia-uvichnennia-podii-revoliutsii-hidnosti-ta-vshanuvannia-podvyhu-heroiv-ukrainy-heroiv-nebesnoi-sotni-na-202-2 (Last accessed: 28.01.2026).
34. On the implementation of a pilot project to create a network of startup schools — incubators — accelerators based on higher education institutions and scientific institutions. Resolution of the Cabinet of Ministers of Ukraine 430 (2024). URL: https://zakon.rada.gov.ua/go/430-2024-%D0%BF (Last accessed: 28.01.2026).
35. On approval of the list of higher education institutions and scientific institutions on the basis of which a network of startup schools — incubators — accelerators will be created, based on the results of the competitive selection of scientific and technical projects aimed at supporting the innovative activities of higher education institutions and scientific institutions recommended for funding. Order of the Ministry of Education and Science of Ukraine 1512 (2024). URL: https://mon.gov.ua/npa/pro-zatverdzhennia-pereliku-zakladiv-vyshchoi-osvity-naukovykh-ustanov-na-bazi-iakykh-bude-stvoreno-merezhu-startap-shkil-inkubatoriv-akseleratoriv-za-rezultatamy-konkursnoho-vidboru-naukovo- (Last accessed: 28.01.2026).

36. On approval of the Regulation on the competitive selection of scientific, scientific and technical works and projects financed by the external assistance instrument of the European Union to fulfill Ukraine's obligations in the European Union Framework Programme for Research and Innovation «Horizon 2020». Resolution of the Cabinet of Ministers of Ukraine 971 (2019). URL: https://zakon.rada.gov.ua/go/971-2019-%D0%BF (Last accessed: 28.01.2026).
37. On approval of final proposals for the list of scientific works, scientific, technical and infrastructure projects recommended for funding. Order of the Ministry of Education and Science of Ukraine 1103 (2024). URL: https://mon.gov.ua/npa/pro-zatverdzhennia-ostatochnykh-propozytsii-shchodo-pereliku-naukovykh-robit-naukovo-tekhnichnykh-ta-infrastrukturnykh-proiektiv-rekomendovanykh-dlia-finansuvannia (Last accessed: 28.01.2026).
38. List of joint ukrainian-latvian research projects selected for funding in 2025—2026. Ministry of Education and Science of Ukraine. URL: https://mon.gov.ua/static-objects/mon/sites/1/nauka/horizont/2025/dvostoronni-naukovi-konkursy-2025/rezultaty-konkursiv-2025/05-05-2025/spiln-ukr-latv-nauk-dosl-proyekt-2025-2026-06-05-2025.pdf (Last accessed: 28.01.2026).
39. List of joint ukrainian-austrian research bilateral projects selected for funding in 2025—2026. Ministry of Education and Science of Ukraine. URL: https://mon.gov.ua/static-objects/mon/sites/1/nauka/horizont/2025/dvostoronni-naukovi-konkursy-2025/rezultaty-konkursiv-2025/16-04-2025/spiln-ukr-avstr-nauk-dosl-proyekt-2025-2026-16042025.pdf (Last accessed: 28.01.2026).
40. List of joint ukrainian-lithuanian research projects selected for funding in 2026—2027. Ministry of Education and Science of Ukraine. URL: https://mon.gov.ua/static-objects/mon/sites/1/nauka/2026/naukovo-doslidni-projekty/perelik-projektiv-ukr-litva-opriliudnennia-rezultativ-2026-2027-rr.pdf (Last accessed: 28.01.2026).

Received 02.06.2025
Revised 10.11.2025
Accepted 25.12.2025

А.Г. Жарінова [1] (https://orcid.org/0000-0003-3959-1074),
О.І. Шкуратов [2] (https://orcid.org/0000-0002-8656-723X),
С.С. Жарінов [1] (https://orcid.org/0000-0003-3568-8127),
І.О. Дьогтєва [1] (https://orcid.org/0000-0002-8567-6952)

[1] Державна науково-технічна бібліотека України,
вул. Антоновича, 180, Київ, 03150, Україна,
+380 44 521 9350, dntb@dntb.gov.ua
[2] Київський національний університет будівництва і архітектури,
проспект Повітряних Сил, 31, Київ, 03037, Україна,
+380 44 243 2603, pk@knuba.edu.ua

ОЦІНКА ЗАБЕЗПЕЧЕННЯ КОНКУРСНИХ ВІДБОРІВ ФІНАНСУВАННЯ НАУКОВИХ (НАУКОВО-ТЕХНІЧНИХ) ПРОЄКТІВ НАЦІОНАЛЬНОЮ ЕЛЕКТРОННОЮ НАУКОВО-ІНФОРМАЦІЙНОЮ СИСТЕМОЮ

Вступ. Проведення конкурсних відборів є фундаментальною організаційно-методичною умовою фінансування окремих наукових програм, проєктів, розподілу грантів державного бюджету шляхом цільової підтримки.

Проблематика. Ефективність розподілу фінансування стратегічно залежить від якості організації та проведення конкурсу, від надійності та прогностичної валідності експертної оцінки. У контексті цифровізації критичним завданням є розробка механізмів, які гарантують прозорість, об'єктивність та економічну ефективність конкурсних процедур.

Мета. Проаналізувати забезпечення конкурсів у середовищі Національної електронної науково-інформаційної системи (Система), оцінити її здатність нівелювати наявні організаційно-методичні ризики та надати рекомендації щодо вдосконалення процедур.

Матеріали й методи. Застосовано емпіричні, загально-логічні методи для аналізу нормативно-правової бази, виявлення ризиків; функціональний аналіз — для дослідження Модуля Конкурсів; інформаційний, статистичні методи — для оцінки якісних та кількісних характеристик процесів, даних відборів.

Результати. Забезпечення конкурсів у Системі дозволило покрити значну частину викликів та зменшити організаційно-методичні ризики. Комплексний аналіз інформаційних процесів у Модулі Конкурсів сприяв активізації роботи з їхнього методологічного та функціонального удосконалення. Впровадження універсальної схеми процедури забезпечило прозорість та цифрову уніфікацію конкурсних відборів. Систематичне накопичення та аналіз даних результатів конкурсів дозволили сформувати актуальну картину наукового і частково інноваційного ландшафту України для прийняття обґрунтованих управлінських рішень щодо концентрації фінансових ресурсів, що є стратегічною передумовою забезпечення наукового, науково-технічного та інноваційного розвитку.

Висновки. Модуль Конкурсів у Системі успішно виконує функцію комплексної електронної платформи для конкурсних відборів. Подальшу роботу варто зосередити на уніфікації, удосконаленні процедур для досягнення повної автоматизації та мінімізації транзакційних витрат вчених, що забезпечить відповідність принципам економічної ефективності та прозорості.

Ключові слова: відкрита наука, грант, експертиза, конкурсний відбір, конкурсне фінансування, наукова і науково-технічна діяльність, проєкт, Національна електронна науково-інформаційна система.