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The Role of the State Scientific and Technical Library in the Context of Digitalization of Public Administration in the Sphere of Science

Objective. The research analyzes how the Ministry of Education and Science of Ukraine ensures the formation and implementation of state policy in the fields of scientific, scientific and technical, and innovative activities through digitalization. Particular attention is paid to the use of information and communication systems, databases, and electronic resources of the State Scientific and Technical Library of Ukraine (SSTL of Ukraine). The paper focuses on the implementation and development of the National Electronic Scientific and Information System URIS and the Open Ukrainian Citation Index (OUCI). The objective is to identify their current achievements, propose improvements, and outline promising areas for further development. **Methods.** The research applies general scientific and analytical methods. Empirical methods (monitoring, analysis, and synthesis) were used to study the operation of digital systems. Theoretical and formalization methods supported the analysis of legal and regulatory documents governing science policy. System and functional analyses were applied to assess internal and external integration, technical efficiency, and management procedures. Strategic planning, bibliometric and content analyses, and descriptive statistics were used to forecast development scenarios and evaluate performance indicators. **Results.** The results show that the SSTL of Ukraine has become a central institution in the digitalization of scientific governance. The URIS system has enabled full digitalization of procedures for research funding, institutional evaluation, and reporting. The OUCI provides a national citation database aligned with Open Science and FAIR principles. These tools improved transparency, efficiency, and interoperability. The SSTL also supports access to international databases and maintains a national electronic catalogue. **Conclusions.** Digital transformation of scientific management in Ukraine has reached a new level through the URIS and OUCI systems. Sustained investment, regulatory support, and international integration are essential for further development and alignment with global research infrastructures.

Keywords: open science information and communication technologies; scientific information; National Electronic Scientific Information System URIS;-FAIR principles; digitalization, library

Introduction

The State Scientific and Technical Library of Ukraine (SSTL of Ukraine) operates under the authority of the Ministry of Education and Science of Ukraine and, in accordance with Article 8 of the Law of Ukraine “On Scientific and Technical Information”, constitutes an integral component of the National System of Scientific and Technical Information. Furthermore, under Article 6 of the Law of Ukraine “On Libraries and Library Affairs”, it holds the status of a national library of state-wide significance. Due to the interdisciplinary nature of its collections, it functions as a cross-sectoral scientific and technical library while also conducting active scientific research.

Founded in 1935 as the Kyiv Branch of the State Scientific Library of the People's Commissariat for Heavy Industry of the USSR (NKTP), SSTL will mark its 95th anniversary in 2025. Pursuant to Resolution No. 1154 of the Council of Ministers of the USSR dated October 17, 1958, the Kyiv branch was transferred to the jurisdiction of the State Scientific and

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Technical Committee of the Council of Ministers of the Ukrainian SSR. Later, based on Resolution No. 771-r of the Council of Ministers of the Ukrainian SSR dated June 6, 1960, it was reorganized into the Republican State Scientific and Technical Library. Since December 15, 1992, the library has been under the State Committee of Ukraine for Science and Technology. By Presidential Decree No. 1573 dated December 15, 1999, and Order No. 239 of the Ministry of Education and Science dated June 22, 2000, the SSTL of Ukraine was formally subordinated to the Ministry of Education and Science of Ukraine.

SSTL of Ukraine has actively supported Ukraine's European integration efforts, particularly in adopting and promoting the Open Science paradigm. A key turning point in the global open access movement was the Budapest Open Access Initiative (BOAI), launched at a meeting convened by the Open Society Institute on December 1–2, 2001, and publicly released on February 14, 2002. The BOAI called for the use of digital technologies to provide free online access to scholarly literature for reading, reuse in research and education, and citation rights retained by authors. The initiative articulated the principles of open access as free and unrestricted online availability, fostering a transformative shift in scholarly communication.

This movement was later reinforced by the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities, signed in October 2003 and recognized as a cornerstone document in the field. These foundational events launched the broader Open Science agenda, which continues to guide policy and infrastructure development across Europe.

Ukraine, as part of its alignment with the European Research Area (ERA), has committed to implementing Open Science principles. This commitment is reflected in the adoption of the FAIR principles (Findable, Accessible, Interoperable, Reusable) for research data management and the development of the ERA-UA Roadmap, which sets forth national priorities and concrete actions for Open Science implementation.

In 2018, the Ministry of Education and Science of Ukraine (MESU) introduced updated criteria for the List of Scientific Professional Journals of Ukraine, including classification and monitoring procedures. One key requirement was the assignment of a Digital Object Identifier (DOI) to each publication. This move significantly improved the international visibility and accessibility of Ukrainian research, enabling deeper integration into the global scientific community and supporting robust international collaboration.

As a result of these advancements, Ukraine has gained access to enhanced digital services, expanded research cooperation through joint international projects, and increased participation in initiatives such as the European Open Science Cloud (EOSC). The country is now also positioned to develop a National EOSC Centre, offering a new model of open and collaborative scientific infrastructure.

Following the full-scale Russian invasion of Ukraine on February 24, 2022, support from the European Union, the United States, and other international partners has intensified across sectors, including science and education. This global solidarity reaffirms Ukraine's European trajectory not only in foreign policy and security but also in science, research, and innovation.

Since the introduction of FAIR-aligned policies in the Ukrainian research landscape, data governance in science has undergone a qualitative transformation, particularly within the context of state-level digitalization. A cornerstone of this transformation is real-time, permanent access to research outputs through persistent identifiers, ensuring visibility, interoperability, and long-term reuse across global digital infrastructures.

To support this transformation, SSTL of Ukraine has developed and maintains the NAUKA Platform, which enables the digital implementation of state procedures related to scientific activity. The platform underpins MESU's efforts to implement the National Open Science Action Plan and accelerates Ukraine's engagement with the European Research Area.

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CHANGING ROLES: FROM INFORMATION PROVIDERS TO EDUCATORS

The development of national research information systems represents a critical component of modern science policy and digital governance. A growing body of literature highlights the strategic role of Current Research Information Systems (CRIS) in supporting data-driven decision-making, open access, and interoperability in national and international research ecosystems.

Andreose, Di Marzo, Heibi, Peroni, and Zilli (2025) provide an important case study on the University of Bologna, evaluating the metadata coverage of institutional research outputs within Open Citations. Their findings stress the importance of integrating persistent identifiers (PIDs) such as DOIs and ORCIDs into CRIS platforms to ensure data quality, interoperability, and accurate bibliometric analysis. These conclusions directly relate to the core design principles of Ukraine's URIS system, which also prioritizes the use of PIDs to ensure long-term accessibility and reuse of scientific metadata in line with FAIR principles.

Biesenbender, Petersohn, and Thiedig (2019) explore the interaction between CRIS and open access repositories through a survey of repository managers. Their results suggest that while integration enhances transparency and resource discoverability, technical and policy-related challenges persist, especially in achieving alignment between institutional systems and national mandates. These challenges mirror those encountered in the Ukrainian context, where URIS must reconcile legacy data practices with modern requirements for open and automated reporting. EuroCRIS, the international organization for CRIS stakeholders (https://eurocris.org), offers a foundational body of knowledge regarding best practices and standards in RIS development. These materials serve as a reference point for Ukraine's digital transition in scientific governance, particularly in light of its efforts to align with European Research Area (ERA) and EOSC guidelines.

Significant insights into the Ukrainian experience are provided by Kaliuzhna and Auhunas (2022), who document the conceptualization and implementation of the Ukrainian National CRIS, highlighting technical, policy, and administrative aspects of the project. Their work contextualizes URIS within broader state efforts to reduce administrative burden, digitize reporting, and support Open Science. They also emphasize the importance of multi-stakeholder engagement and international collaboration, particularly with EuroCRIS and EOSC, in building a resilient digital infrastructure for research management in a country affected by war.

A broader view of CRIS benefits is offered by Lajpop and Ixcolin (2025), who underscore the capacity of CRIS systems to increase transparency, improve resource allocation, and support the evaluation of scientific impact. Their findings reinforce the policy rationale behind the MESU's adoption of URIS as a central component of digital transformation in science governance.

Complementing the academic literature are several legal and institutional policy documents issued by the Ministry of Education and Science of Ukraine. Orders such as No. 914 and No. 885 (Ministry of Education and Science of Ukraine, 2022a, 2022b) define procedures for expert selection and competitive evaluation of scientific projects. These frameworks demonstrate the government's commitment to embedding transparency and meritocracy into funding decisions, with URIS serving as the technological enabler.

Subsequent ministerial orders from 2023 to 2025 (e.g., Orders No. 1572, No. 1113, No. 1361, No. 369) illustrate how URIS has been increasingly institutionalized as the primary platform for conducting competitions, collecting project data, and publishing results (Ministry of Education and Science of Ukraine, 2023a, 2023b, 2024, 2025). These developments reflect not only administrative modernization but also compliance with open government principles and digital public service delivery.

The official URIS platform and documentation provided by NAUKA (https://nauka.gov.ua/) and State Scientific and Technical Library of Ukraine (n.d.) further detail the architecture and objectives of the system. URIS is framed as a central node in Ukraine's

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scientific ecosystem, supporting data-driven planning, international collaboration, and reduced administrative overhead. Importantly, it serves as a data repository and procedural tool for activities such as state certification of institutions and monitoring of research infrastructure.

The integration of ORCID into Ukraine's national digital infrastructure, as described by Marín-Arraiza (2023), marks another significant milestone. It enables researchers to maintain interoperable profiles that feed into both domestic and global research infrastructures. This approach supports researcher mobility and ensures that Ukrainian scholars remain visible and connected despite geopolitical disruptions.

Other national data sources, such as the Unified State Electronic Database on Education (EDBO), play a complementary role, supplying verified institutional information essential for linking academic affiliations and project data within URIS (Unified State Electronic Database on Education, n.d.).

Finally, Zharinov, Zendulková, Tsybenko, and Zherebchuk (2024) examine the mapping of Ukraine's research infrastructure and the development of the "Science Map of Ukraine". Their research highlights the need for comprehensive, geo-tagged, and semantically rich data on institutions and infrastructure, a need that URIS is uniquely positioned to fulfil through its modular architecture and linked open data principles.

The reviewed literature converges on several key themes: (1) the necessity of interoperable, metadata-rich CRIS systems for modern science policy; (2) the role of national platforms like URIS in aligning with global Open Science and FAIR data practices; (3) the importance of persistent identifiers and automated data flows; and (4) the use of CRIS systems to improve transparency, reduce administrative burden, and support strategic science planning. The Ukrainian experience, as documented in both international literature and national policy, offers a compelling example of how digital infrastructures can strengthen research governance even under conditions of institutional and geopolitical strain.

The objective of this research is to critically analyse the role of the SSTL of Ukraine in supporting the digital transformation of Ukraine's scientific governance through the implementation of the National Electronic Scientific and Information System and its integration with global Open Science frameworks. By examining the ongoing digitalization of scientific activities in Ukraine, the research aims to assess how URIS has contributed to enhancing transparency, efficiency, and international collaboration within the context of Ukraine's alignment with European and global scientific infrastructures. The research further seeks to identify the challenges and opportunities associated with the adoption of FAIR principles in the management of research data, with particular emphasis on the integration of persistent identifiers such as DOIs and ORCIDs. Additionally, this work explores how the transition towards Open Science, supported by systems like URIS, contributes to the broader goals of digital governance, data-driven decision-making, and the reduction of administrative burdens in scientific management, particularly in light of geopolitical disruptions caused by the ongoing war in Ukraine. By drawing on both the practical experience of SSTL and international literature, the paper aims to provide recommendations for further enhancing the national research information systems in Ukraine, with a focus on improving the interoperability of research outputs and fostering deeper integration with European research initiatives.

Methods

The methodological foundation of this study is grounded in a mixed-methods approach that combines qualitative and quantitative analysis to examine the digital transformation of scientific governance in Ukraine, with particular focus on the role of the SSTL of Ukraine and the

https://doi.org/10.15802/unilib/2025_344006

implementation of the National Electronic Research Information System (URIS). The research was conducted within the framework of applied policy analysis and institutional development in the context of Open Science and digitalization strategies adopted by the MESU.

A comprehensive review of normative acts, government strategies, and institutional mandates was conducted to trace the historical and legal evolution of SSTL and URIS. This included detailed analysis of national legislative frameworks such as the Law of Ukraine "On Scientific and Technical Information," the Law "On Libraries and Librarianship," relevant presidential decrees, MESU orders, and Open Science roadmaps (including ERA-UA). These documents were analyzed to identify the institutional roles, regulatory environment, and expected deliverables of URIS as a national research infrastructure component.

The technical structure and modular architecture of the URIS system were examined to evaluate the operational logic, data workflows, and integration with persistent identifiers such as ORCID, DOI, and ROR. This included an assessment of system modules (authorization, user cabinets, procedural modules, and analytical dashboards) and how they support state procedures such as research funding competitions, national attestation of institutions, and collection of scientific activity reports. System capabilities were benchmarked against FAIR data principles and EU digital policy guidelines (e.g., Directive 2019/1024 on open data and public sector information).

Quantitative data were gathered through the URIS platform, including the number and types of state procedures executed via the system in 2023–2024 (e.g., competitive calls, institutional assessments, research infrastructure data collection). These data were supplemented by institutional case studies that analysed how SSTL of Ukraine, as a technical administrator, has facilitated the transition from paper-based workflows to automated digital processes. Selected case examples included the national reporting campaign for research institutions and the pilot implementation of the Open Ukrainian Citation Index (OUCI).

To ensure a comprehensive understanding of the transformation process, the study incorporated expert feedback from representatives of higher education institutions, research organizations, and government bodies. Semi-structured interviews and informal consultations were conducted to capture user experiences with the URIS platform, challenges in data entry and verification, and perceptions of its utility for research policy development.

Bibliometric tools were employed to analyse the impact of digitization on the visibility and accessibility of Ukrainian scientific output. The study utilized data from the OUCI, Crossref Cited-by service, and Research4Life platforms to measure trends in citation, publication indexing, and international collaboration. This component assessed the effectiveness of SSTL's efforts in integrating Ukrainian publications into global open-access ecosystems.

The research drew on comparative practices in European Research Information Systems (CRIS) to benchmark URIS against analogous systems in EU member states. Normative benchmarking focused on alignment with international standards for data stewardship, metadata curation, and open access dissemination. The goal was to assess how URIS contributes to Ukraine's integration into the European Research Area (ERA) and the European Open Science Cloud (EOSC).

The final stage of the research involved a systems-level synthesis connecting institutional, technological, and policy dimensions. This approach helped to contextualize SSTL's transformation not only as a library modernization effort, but as a strategic realignment of the national research information ecosystem. Key performance indicators (KPIs) were developed to measure the sustainability, interoperability, and strategic value of digital tools implemented through URIS.

https://doi.org/10.15802/unilib/2025_344006

Results and Discussions

The creation of the Ukrainian Research Information System (URIS) by the State Scientific and Technical Library of Ukraine (SSTL) marks a crucial step in the digital transformation of government procedures related to science and higher education in Ukraine. Initiated in 2020, the original Concept for the Development of the URIS System envisioned a platform that would collect and integrate research-related information using persistent identifiers. These include institutional identifiers (ROR), researcher identifiers (ORCID), publication metadata (DOI), affiliations, and citation data – aligning Ukrainian research with global open research information standards.

However, as development progressed, additional imperatives emerged. Beyond simply aggregating metadata, URIS was reoriented to address systemic inefficiencies—chief among them the reliance on paper-based reporting of research plans and outcomes by higher education institutions (HEIs) and research organizations to the Ministry of Education and Science of Ukraine (MESU). There was a pressing need to eliminate redundant data submission, automate state-level procedures, and enable the reuse and analysis of accumulated data.

This shift placed URIS at the heart of a broader reform of science administration, transforming it into a tool for evidence-based policy, performance monitoring, and strategic planning. The system now supports the digital execution of national procedures, such as research project competitions, state attestation of scientific institutions, and national reporting—streamlining workflows and enhancing transparency.

Architecture and Functionality

URIS is envisioned as a unified national infrastructure for collecting, storing, and analyzing data on Ukrainian research. It enables stakeholders—scientists, research institutions, universities, public officials, and policymakers—to access a wide array of digital services in real time. These services support not only administrative tasks but also research management, evaluation, and planning.

URIS comprises several key components:

Three Core Functional Modules:

- Authorization Module: Ensures secure access and user management.
- User Dashboard Module: Personal and institutional workspaces for data entry, visualization, and management.
- Interaction Module: Supports communication and coordination between the system and external users.

Five Procedural Modules:

- Research Project Competitions Module
- Monitoring Module for HEIs and Research Institutions
- Research Infrastructure Analysis Module
- Consultation Module
- State Attestation Module

Three Integrated Portals:

- National Electronic Research Information Portal
- International Scientific and Technical Cooperation Portal
- National Science Registers Portal

Four Research Profiles:

- Institutions

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- Researchers
- Publications
- Projects

Together, these elements form the foundation of NAUKA, a comprehensive platform that replaces fragmented or paper-based systems with a cohesive digital ecosystem for research governance.

Analytical Significance and Guiding Principles

The implementation of URIS signifies a paradigm shift in how research-related data is managed and utilized in Ukraine. Its architecture and evolution reflect a strategic convergence of Open Science principles, administrative efficiency, and technological resilience. The system is being developed in phases according to a set of key design principles outlined in the URIS Concept:

- URIS is designed to accommodate future expansion in metadata types and integration with external data sources.
- In line with EU Directive 2019/1024 on Open Data, URIS ensures that data is accessible for external use while respecting legal and ethical frameworks.
- All data in URIS must be discoverable, minimally restricted, compatible with various tools, and legally reusable.
- Data entry by users is kept to a minimum through the reuse of existing data and automation.
- The system is designed to operate without a significant additional financial burden on the state, ensuring long-term viability.

URIS is not merely a digital registry – it is a strategic enabler of reform in the science sector. By supporting data-driven decision-making, international integration, and alignment with European research infrastructure standards, it elevates Ukraine's capacity to participate in global scientific cooperation and to manage its national research ecosystem efficiently.

In doing so, SSTL is not only fulfilling its role as a national-level information provider but also positioning Ukraine at the forefront of digital science governance in the Eastern European region.

Since 2023, the State Scientific and Technical Library of Ukraine (SSTL) has successfully implemented a series of state procedures within the URIS System on behalf of the Ministry of Education and Science of Ukraine (MESU), in accordance with official orders. These activities demonstrate not only the operational maturity of the system but also its growing significance in national research governance.

In 2023, the following key procedures were carried out through URIS:

1. Order of MESU No. 1113 dated September 11, 2023

   On conducting the 2023 competitive selection of fundamental research, applied research, and scientific-technical (experimental) developments.

2. Order of MESU No. 1143 dated September 21, 2023

   On announcing the 2023 competitive selection of projects in fundamental research, applied research, and scientific-technical (experimental) developments for early-career researchers.

These competitions were conducted entirely through the URIS platform, which allowed for streamlined digital submission, evaluation, and decision-making processes.

In 2024, the system supported an even broader range of procedures:

A total of 14 competitive selections were administered via URIS, including:

https://doi.org/10.15802/unilib/2025_344006

- A competition for state-named scholarships awarded to outstanding young scientists in commemoration of the Revolution of Dignity and in honor of the Heavenly Hundred Heroes.
- A Ukrainian-Austrian joint research project competition for implementation in 2025–2026.
- A selection of scientific, technical, and infrastructure projects financed from the special fund supported by the European Union's external assistance instrument, within the framework of Ukraine's commitments under the EU Horizon 2020 Programme (Ministry of Education and Science of Ukraine, 2023b).

In addition to competitive calls, URIS facilitated several large-scale state reporting and data collection processes, such as:

- The national reporting campaign on the results of scientific, scientific-technical, and innovation activities of higher education institutions and research organizations under MESU's jurisdiction for the year 2023 and selected previous periods (Ministry of Education and Science of Ukraine, 2024).
- The collection and publication of data on Shared Research Equipment Centers, improving transparency and access to national research infrastructure (Ministry of Education and Science of Ukraine, 2025).

Furthermore, in 2024, URIS began hosting the State Attestation Process for research institutions and higher education establishments engaged in scientific (scientific and technical) activities. This marked the beginning of fully digitized institutional assessments carried out within a unified, transparent platform, thus ensuring:

- Minimization of administrative burden;
- Real-time traceability of evaluation steps;
- Integration with persistent identifiers and metadata systems (e.g., ORCID, DOI, ROR).

The successful execution of these processes illustrates URIS's growing role as a central instrument in automating science governance, reducing manual data exchange, and supporting policy development through structured, interoperable, and reusable datasets.

Conclusions

The State Scientific and Technical Library of Ukraine continues to fulfil its core library functions, collecting, systematizing, preserving, and disseminating scientific information while actively adapting to the requirements of digital transformation. This transition involves modernizing existing infrastructures, updating methods of recordkeeping, implementing electronic cataloguing, and ensuring the long-term digital preservation of data. A key element in this process is the development and ongoing expansion of the library's Electronic Catalogue (EC), which currently contains over 400,000 records. The EC includes bibliographic descriptions of virtually all newly acquired monographs, dissertation abstracts, and journal issues, and it facilitates the registration of normative and technical documents. This system allows for prompt responses to a wide range of user inquiries and supports efficient information services.

Since 2018, the SSTL has been instrumental in ensuring access for Ukrainian research institutions and higher education establishments to major scientometric databases, including Scopus and Web of Science. Following the full-scale Russian invasion in 2022, this access was provided free of charge to Ukrainian researchers as part of international support measures. Furthermore, by the end of 2025, Ukrainian institutions will have free access to full-text electronic resources available on the Research4Life platform. Since January 2020, all Ukrainian state and municipal research institutions and universities have had access to Springer Nature's full-text collections, including the 2017 electronic book collection, which is available in perpetuity. In the

https://doi.org/10.15802/unilib/2025_344006

reading rooms of SSTL, users can access the Springer Link portal, which offers 9,662 titles from the 2017 collection.

Through the Research4Life portal, researchers can also access vast electronic collections of books and journals from prominent international publishers such as Elsevier, Springer Nature, John Wiley & Sons, Taylor & Francis, Emerald, Sage Publications, Oxford University Press, Cambridge University Press, IOP Publishing, and others. SSTL plays a central administrative role in facilitating and maintaining access to these electronic resources, thus positioning itself as a vital component of Ukraine's national research information infrastructure.

In accordance with its statute, since 2018, SSTL has also been engaged in scientific research activities. Among its notable achievements is the development and pilot implementation of the Open Ukrainian Citation Index (OUCI), a search engine and citation database that aggregates citation data from journals supporting the Crossref Cited-by service and adhering to the Initiative for Open Citations. Beginning in 2020, the Library initiated the development of the National Electronic Research Information System (URIS), and since 2024, has assumed the role of its technical administrator. In this capacity, SSTL is responsible for maintaining the uninterrupted operation of the system, integrating diverse information flows, managing digital resources and datasets, introducing innovative tools for research monitoring and analysis, and facilitating the optimization of state procedures under the Ministry of Education and Science of Ukraine (MESU).

This optimization is achieved through centralized access to research data, improved efficiency of information exchange between academic institutions and government bodies, and the automation of data collection and processing. These efforts support the adoption of evidence-based policymaking in the research and innovation sectors. Importantly, SSTL champions the principles of Open Science and the FAIR (Findable, Accessible, Interoperable, Reusable) data paradigm, ensuring that scientific data is broadly accessible and effectively integrated within national and international information systems. Through close cooperation with MESU and the implementation of advanced digital technologies, SSTL not only modernizes traditional library services but also acts as a strategic partner in shaping state science policy. This dual role enhances national competitiveness in the global scientific and technological landscape.

The Library's evolving position within Ukraine's scientific information ecosystem underscores the essential link between traditional library services and cutting-edge digital technologies. By supporting the modernization of administrative procedures in the science sector, SSTL contributes to more efficient research governance, the advancement of open science practices, and the fostering of innovation across the country. Research findings indicate that in the context of state digital transformation, institutions like SSTL play a critical role in ensuring the accessibility, preservation, and dissemination of scientific and technical information.

The strategic direction now involves the creation of a centralized information environment that enables high-quality data exchange between academic and administrative structures. This will support faster and more effective decision-making processes based on up-to-date, verified information and promote the sustainable development of Ukraine's research base, a foundational element of innovation and global competitiveness.

The integration of SSTL with URIS and the broader adoption of digital tools represent a significant step toward modernizing science governance in Ukraine. This transition strengthens the national innovation ecosystem and improves the efficiency with which scientific and technical resources are managed. The successful pilot implementation of data operations in the context of digital governance through URIS underscores the importance of a clearly defined digital transformation strategy for the coming three years.

https://doi.org/10.15802/unilib/2025_344006

It is essential to acknowledge that information systems are continuously evolving. The effectiveness of URIS depends on its integration with other research information systems and the seamless exchange of data within the scientific domain. This requires sustained investment, the development of new modules and electronic tools, a gradual transition from pilot to full-scale implementation, and formal certification of the system's security framework. Equally important are capacity-building efforts, including training and upskilling of researchers and administrative personnel in digital tools for data analysis and management.

In conclusion, the development of URIS is fully aligned with the Open Science concept based on FAIR principles and supports the objectives outlined in Ukraine's National Open Science Action Plan. The role of SSTL as both a national library and a technology leader confirms its status as a key enabler of digital innovation and policy modernization in Ukraine's science sector.

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Роль державної науково-технічної бібліотеки в контексті цифровізації державного управління у сфері науки

Мета. Дослідження має на меті аналіз того, як Міністерство освіти і науки України забезпечує формування та реалізацію державної політики у сфері наукової, науково-технічної та інноваційної діяльності через цифровізацію. Особлива увага приділяється використанню інформаційно-комунікаційних систем, баз даних та електронних ресурсів Державної науково-технічної бібліотеки України (ДНТБ України). Робота зосереджена на впровадженні та розвитку Національної електронної науково-інформаційної системи та відкритого українського індексу наукових цитувань (OUCI). Метою є виявлення досягнень цих систем, формулювання пропозицій щодо їх удосконалення та визначення перспективних напрямів розвитку. **Методика.** У дослідженні використовуються загальнонаукові та аналітичні методи. Для вивчення функціонування цифрових систем застосовано емпіричні методи (моніторинг, аналіз і синтез). Теоретичні та методи формалізації підтримують аналіз нормативно-правових актів, що регулюють наукову політику. Системний та функціональний аналізі допомогли оцінити внутрішню та зовнішню інтеграцію, технічну ефективність і організаційні процедури. Для прогнозування сценаріїв розвитку та оцінки показників діяльності використано стратегічне планування, бібліометричний та контент-аналіз, а також описову

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статистику. **Результати.** Дослідження показує, що ДНТБ України стала центральним інститутом цифровізації наукового управління. Система забезпечила повну цифровізацію процедур фінансування наукових досліджень, інституціональних оцінок та звітності. OUCI надає національну базу цитувань, що відповідає принципам відкритої науки та FAIR. Ці інструменти покращили прозорість, ефективність і взаємодію. ДНТБ України також забезпечує доступ до міжнародних баз даних і підтримує національний електронний каталог. **Висновки.** Цифрова трансформація наукового управління в Україні вийшла на новий рівень завдяки системам URIS та OUCI. Подальше інвестування, регуляторна підтримка та міжнародна інтеграція є необхідними для подальшого розвитку та узгодження з глобальними науковими інфраструктурами.

Ключові слова: відкрита наука; інформаційно-комунікаційні технології; наукова інформація; Національна електронна науково-інформаційна система URIS; принципи FAIR; цифровізація; бібліотека

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