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D 3.1. 1st Service Provision Annual Report

POLIDIH

Polissia Digital Innovation Hub

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CONTENT

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OVERVIEW

This document presents the 1st Service Provision Annual Report of the Polissia Digital Innovation Hub (POLIDIH) and provides a comprehensive overview of the services delivered during the first reporting period. The report summarizes the scope, structure, and results of service provision across all thematic service blocks implemented within the project framework, with a particular focus on geoinformation services, information solutions, automation, training activities, and grant support.

The report aims to demonstrate how POLIDIH contributes to the digital transformation of territorial communities, businesses, and institutions in the Polissia region by delivering practical, demand-driven digital services. It highlights the role of GIS-based analytics, satellite data, digital tools, and capacity-building activities in supporting evidence-based decision-making, sustainable resource management, and increased investment attractiveness of territories.

Overall, this report serves as a consolidated reference document for stakeholders, project partners, and funding bodies, providing a structured insight into the achievements of the first service provision period and laying the groundwork for further expansion and improvement of POLIDIH services in subsequent reporting phases.

Project	POLIDIH
Work package number	WP2
Work package title	Digital services (geoinformation support and ecomonitoring)
D 3.1	1st Service Provision Annual Report
Date of Report:	March 1, 2026
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Contributors	PNU
Dissemination Level	PU
Nature	RE

Dissemination Level: PU Public

PP - Restricted to other programme participants (Including the Commission Services)
RE - Restricted to a group specified by the consortium (Including the Commission Services)
CO - Confidential, only for members of the consortium (Including the Commission Services)

Nature

PR - Prototype
RE - Report
SP - Specification
TO - Tool OT Other

Synopsis This deliverable provides an overview of the Service provision of POLIDIH Project.

List of Keywords Digital services, geoinformation technologies, ecomonitoring, data collection, automatisation services

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1. Introduction

1.1. 1st period Service report summary

POLIDIH (Polissia Digital Innovation Hub) is a leading regional initiative for the development of digital technologies, innovations and spatial analytics in the Polissia region. Within the framework of the POLIDIH project, a wide range of services has been developed, covering the areas of geographic information systems, digital transformation of communities, automation of production processes, educational programs and support for attracting investments through grant mechanisms.

This document - the 1st Annual Report on the provision of services - aims to provide a generalized description of the services provided, their structure, principles of provision and opportunities for clients. It systematizes POLIDIH service offerings by thematic areas, outlines their target focus, implementation methodology and indicative terms of cooperation.

The document is intended for representatives of local governments, businesses, educational and scientific institutions, as well as organizations interested in implementing innovations, increasing the efficiency of resource management and developing the regional economy using modern digital solutions.

1.2. Deliverable overview

Objectives

To leverage digital technologies and geospatial information to enhance environmental monitoring, decision support, and stakeholder engagement processes, ultimately contributing to more effective and sustainable management of natural resources and ecosystems

Work package description

T3.1. Provision of Services related to Geospatial Data Collection and Analysis. Utilize geospatial data, such as satellite imagery, GIS layers, and remote sensing data, to support project objectives by offering comprehensive analysis and insights.

T3.2. Provision of Services related to Ecomonitoring System Development. Develop and deploy an ecomonitoring system tailored to track environmental indicators, ensuring effective assessment of project impacts from the user's perspective.

T3.3. Provision of Services related to Spatial Decision Support. Offer spatial analysis and decision support tools that empower users in project planning, management, and decision-making processes, facilitating informed and strategic actions.

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2. General characteristics, purpose and principles of service provision

General characteristics

POLIDIH (Polissia Digital Innovation Hub) offers comprehensive educational, consulting, technical, and grant support services aimed at facilitating the digital transformation of territorial communities, enterprises, research institutions, and organizations. The services are organized into clearly structured blocks: geoinformation services, information solutions, production automation, professional training, and grant support. All services are developed based on the actual needs of users and are oriented towards enhancing management efficiency, ensuring decision-making transparency, optimizing resource use, and promoting the sustainable development of territories and businesses.

Objective of service provision

The primary objective of POLIDIH's service provision is to ensure access for communities, enterprises, and organizations to modern digital tools, knowledge, and practical solutions for:

- improving territorial and resource management;
- introducing innovations into production processes;
- increasing the investment attractiveness of territories;
- supporting sustainable economic, social, and environmental development;
- preparing human resources for work in the digital economy.

Principles of service provision

1. Client needs orientation
2. Comprehensiveness and interdisciplinarity
3. Quality and professionalism
4. Accessibility and transparency
5. Innovation and development
6. Support for sustainable development

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3. Results of Service Block 1 - GIS Services

General description

Geographic Information System (GIS) services are one of the key areas of activity of the Polissia Digital Innovation Hub (POLIDIH) and are aimed at implementing modern spatial analysis tools to support management, investment, environmental, and production decision-making. GIS services are based on the integration of spatial data, satellite monitoring, open state registers, statistical information, and data provided directly by clients.

The main objective of GIS services is to increase the efficiency of territorial, resource, and infrastructure management by providing substantiated, visualized, and analytically interpreted information. The services are oriented toward territorial communities, local self-government bodies, businesses, the agricultural sector, investors, educational institutions, and research organizations.

GIS services cover the full cycle of work—from data collection and verification to the preparation of analytical reports, cartographic materials, interactive geoportals, and practical recommendations for decision-making. The service delivery process relies on modern software environments (ArcGIS, QGIS, Google Earth Engine), Copernicus satellite data, and advanced spatial modeling and analysis tools.

The scope of GIS services includes the development of geo-investment and geoinformation passports for communities, land cover and land use analysis, environmental GIS monitoring, vegetation condition assessment, spatial planning and suitability mapping, optimization of social infrastructure networks, geomarketing studies, as well as training and consulting on the implementation of GIS technologies.

GIS services provided by POLIDIH are based on the principles of comprehensiveness, scientific validity, practical orientation, transparency, and support for sustainable development. They serve as a “test before invest” tool, enabling clients to assess management, investment, and spatial development decisions on the basis of reliable data prior to their actual implementation.

Number of services provided

During the reporting period, within the framework of geoinformation services, comprehensive support was provided to territorial communities in the implementation of spatially oriented management tools. In particular, six GIS training services were delivered, aimed at developing practical skills in working with spatial data, digital maps, and satellite monitoring outputs to support evidence-based decision-making. In addition, four geo-investment passports were developed, providing a comprehensive assessment of the investment potential of territories based on spatial, socio-economic, and infrastructure analysis. Furthermore, two community geoinformation passports were prepared, enabling the systematization of key spatial and statistical data and forming an analytical basis for strategic planning, project development, and effective communication with investors and other stakeholders.

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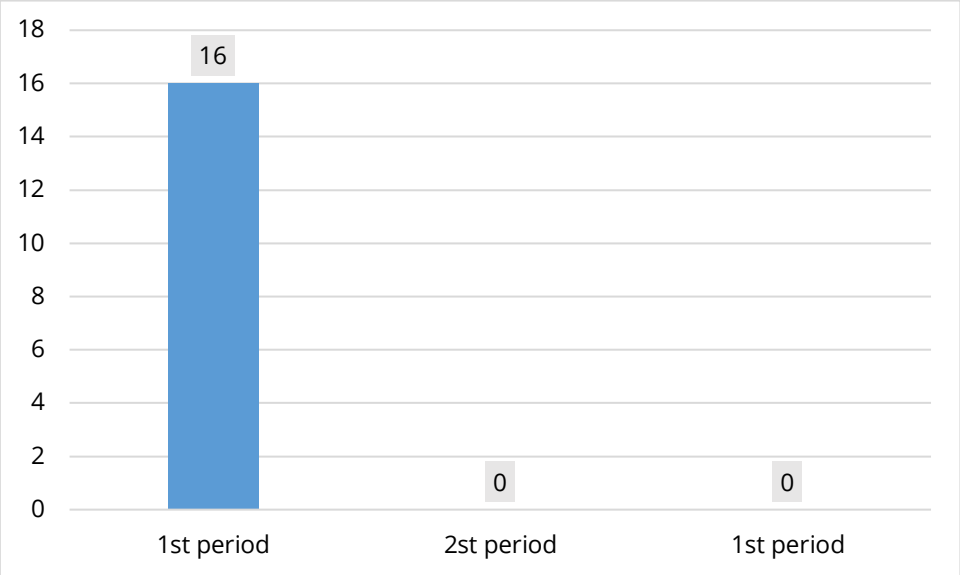

Figure 1. Number of GIS services provided by POLIDIH

Customer characteristics

The primary clients of the services are territorial communities of various sizes located across different parts of Zhytomyr Oblast. These include rural, settlement, and urban communities, which differ in terms of population size, spatial structure, economic specialization, and development challenges. Such geographic and typological diversity of client communities allows the services to be adapted to a wide range of local needs - from agricultural and land management issues typical of rural areas to infrastructure planning, investment attraction, and service optimization challenges faced by settlement and urban communities. This broad client base demonstrates the flexibility and applicability of the provided solutions across different territorial contexts within Zhytomyr Oblast and ensures their relevance for communities with varying levels of institutional capacity and development priorities.

Average service time

GIS services training – 1.5 months;
Development of Geoinvestment Passport – 5 weeks;
Development of Geoinformation Passport – 5 weeks.

Areas for improving service delivery

- Deepening analytics – integration of predictive models, scenario analysis and KPI-oriented indicators to support strategic decisions of communities.
- Standardization of products – unification of the structure of passports and reports to facilitate comparison between communities and use in donor projects.
- Personalization of services – adaptation of GIS solutions to the specifics of different types of communities (rural, township, urban).
- Strengthening the training component – development of short modular courses and post-training support.

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4. Results of Service Block 2 – Information Services

General description

Development, testing, implementation and scaling of digital products and services constitute a key direction of digitalization activities of the Polissia Digital Innovation Hub. Within its service portfolio, POLIDIH focuses on the development of web and mobile applications tailored to the needs of local communities, agricultural producers and forestry enterprises.

For local communities, solutions are designed as integrated digital platforms that enhance communication with residents and improve access to public services. They enable the provision of up-to-date information, support the delivery of administrative services online, and facilitate the management of municipal services, including reporting and service monitoring. At the same time, these tools strengthen citizen engagement through digital feedback mechanisms and support the monitoring and automation of infrastructure and environmental processes.

For agricultural producers, POLIDIH develops digital solutions aimed at improving farm management efficiency and supporting data-driven decision-making. These tools integrate farm management functions with field monitoring based on sensor and satellite data, provide analytical capabilities such as yield forecasting and cost optimization, and ensure access to relevant agronomic, weather and market information.

For forestry enterprises, digital solutions focus on enhancing the efficiency and sustainability of forest management. They support planning and implementation of forestry activities, enable monitoring of forest conditions and resources, and improve data exchange, analytics and reporting.

Number of services provided

During the reporting period, within the framework of the development of information services, a web-based platform with personal user accounts for municipal waste management services has been developed and contracted for deployment in the Radomyshl territorial community. The solution is currently at the final stage of testing and validation in cooperation with the community.

In addition, an information system is currently at the testing stage, aimed at addressing the issue of inaccurate and irregular monitoring of the physiological condition of cattle through the introduction of automated monitoring based on computer vision and artificial intelligence. The solution integrates computer vision, artificial intelligence and deep learning with digital data integration. It is currently at TRL 7–8 and is being validated in a controlled environment, with further steps planned towards market deployment.

Customer characteristics

The key target customer groups for the above-mentioned information services developed by POLIDIH include territorial communities in the Zhytomyr region, as well as small and medium-sized agricultural producers engaged in both crop and livestock production.

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Average service time

Design, development, testing and implementation of a web platform – 6 weeks;

Design, development, testing and implementation of a digital product aimed at optimizing agricultural activities – 6-9 months.

Areas for improving service delivery

Further improvement of service delivery is primarily associated with scaling the developed solutions to a wider range of users and territories, as well as enhancing their interoperability with existing digital systems and data sources. Additional efforts are required to strengthen user engagement and digital skills among target groups to ensure effective adoption and utilization of the services.

At the same time, further development of analytical functionalities, including advanced data processing and integration of AI-based tools, will contribute to increasing the value of the services for end-users. Improving feedback mechanisms and incorporating user-driven adjustments during the deployment phase will also support the continuous refinement and sustainability of the solutions.

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5. Results of Service Block 3 – Automation services

General description

Automation services are a set of technical solutions and service activities aimed at ensuring the stable, safe, and uninterrupted operation of industrial equipment and production systems. Such services enable maintaining the functionality of technological lines, timely detection of technical faults, optimization of equipment performance, and reduction of production downtime risks.

These services cover a wide range of technical activities, including system diagnostics, configuration, backup management, and optimization of automation components. In particular, they involve creating backups of controllers and operator panels, ensuring rapid system recovery in case of technical failures or software errors. They also include the commissioning of technological lines based on programmable logic controllers (PLCs) and the configuration of frequency converters to optimize the operation of electric motors and industrial equipment.

An important component of these services is the parameterization and configuration of intelligent instrumentation and control devices. This enhances measurement accuracy, improves control over technological processes, and increases the level of automation in production systems.

In addition, the services include diagnostics of industrial communication networks such as PROFIBUS and PROFINET to identify communication errors, assess network performance, and ensure stable data exchange between automation components. Diagnostics of electrical installations are also carried out to identify potential technical risks, prevent accidents, and ensure the safe operation of electrical equipment.

Automation services are based on the principles of reliability, technological efficiency, and practical orientation. They contribute to increasing the stability of production processes, reducing maintenance costs, and supporting the long-term sustainability of industrial automation infrastructure.

Number of services provided

During the reporting period, no services were provided within the automation services. During this period, they were in the process of development and testing.

Customer characteristics

The main clients of automation services are medium and large industrial enterprises from different regions of Ukraine. They differ in the scale of production capacities, technological specifics, level of automation and complexity of production processes. Due to the high adaptability of the services, they can be effectively applied at various enterprises - from the adjustment of technological lines and frequency converters to the comprehensive diagnostics of industrial networks and electrical installations. This confirms the flexibility and practical applicability of the provided solutions in various production environments and ensures their relevance for enterprises with different levels of technical capabilities and development priorities.

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Average service time

Diagnostics of industrial networks – 1 week;
Commissioning of technological lines based on PLC – 1 week;
Commissioning of frequency converters – 1 week;
Parameterization of intelligent KVP&A devices with HART/FF interfaces – 1 week;
Diagnostics of electrical installations – 1 week.

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6. Results of Service block 4 – Training and automation implementation services

General description

Automation training programs provide development of professional skills of KVPia engineers, automation engineers and technical specialists of medium and large industrial enterprises of Ukraine. The combination of theoretical training and practical classes allows to effectively master new competencies and apply them in real production processes.

In total, eight training courses have been developed and are actively conducted, covering various aspects of industrial automation: basic and advanced skills of working with programmable logic controllers based on S7-1200, configuration and diagnostics of industrial networks PROFIBUS and PROFINET, working with SINAMICS G120 frequency converters, basics of industrial facility safety, as well as programming and maintenance of PNOZmulti safety systems.

Training programs contribute to the development of practical skills of engineers and technical specialists, increase the level of their professional training and allow enterprises to effectively apply the acquired knowledge to optimize production processes, increase productivity and production safety.

Number of services provided

During the reporting period, 15 training courses were conducted within the framework of automation training programs aimed at improving the skills of KVPia engineers and automation engineers at industrial enterprises of Ukraine. The training included both theoretical classes and practical exercises that allow effectively mastering new skills and applying them in real production tasks.

In particular, the following courses were conducted for individual entrepreneurs and enterprises:

- PNOZmulti — 2 training courses: for individual entrepreneur Rybak Oleksandr Serhiyovych and individual entrepreneur Sydorenko Viktor Serhiyovych.
- Fundamentals of Machine Safety (OBM) — 2 training courses: for individual entrepreneur Rybak Oleksandr Serhiyovych and individual entrepreneur Sydorenko Viktor Serhiyovych.
- STEP 7 – 1200 BASIC — 3 training courses for LLC "IBK "EUROTECHNOLOGIES".
- ECOSTRUXTURE Machine Expert BASIC — 3 training courses for LLC "DKL",
- SINAMICS G120 — 2 training courses for LLC "IBK "EUROTECHNOLOGIES".
- PROFIBUS — 3 trainings for LLC "DKL".

These trainings allow to systematize knowledge, develop practical skills and increase the level of professional training of engineers and technical specialists, ensuring that enterprises effectively apply the acquired knowledge in production work.

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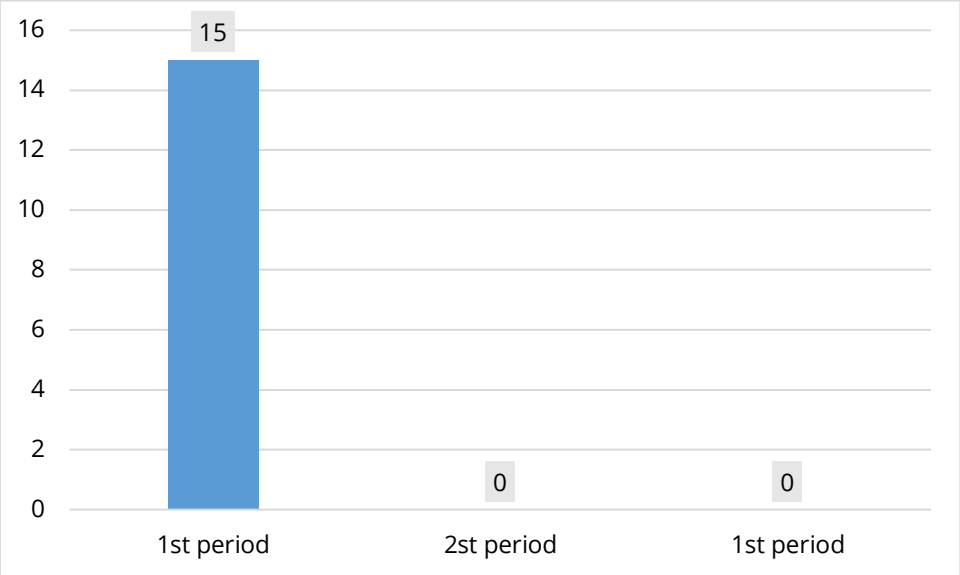

Figure 2. Number of automation trainings conducted

Customer characteristics

The main clients of automation training programs are KVPia engineers and automation engineers of medium and large industrial enterprises, as well as young specialists and students who are just starting their professional activities in the field of industrial automation.

Thanks to a wide range of training courses, the programs can be adapted to different levels of training and professional needs of participants - from basic mastering of the principles of working with controllers, industrial networks and security systems to in-depth study of settings and diagnostics of complex industrial systems. This approach ensures effective development of practical skills and allows participants to apply the acquired knowledge in real production tasks.

Average service time

STEP 7 – 1200 BASIC – 5 days;
STEP 7 – 1200 ADVANCED – 5 days;
ECOSTRUXTURE – 5 days;
PROFINET – 2 days;
PROFIBUS – 2 days;
SINAMICS G120 – 2 days;
PNOZmulti – 1 day;

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7. Results of Service Block 5 - Grant Support Services

General description

Service Block 5 (Grant Support Services) was aimed at providing comprehensive support to applicants in the preparation, submission, and conduct of grant applications within the framework of the program. The services included consultations on identifying relevant calls, consortium building, preparation of project proposals, as well as support in communication with international partners. Particular attention was paid to Cluster 6 of the Horizon Europe programme, especially to issues related to sustainable development, bioeconomy, agriculture, and environmental protection.

Number of services provided

During the reporting period, at least 60 consultation services were provided. In total, more than 20 grant applications were prepared and submitted within the 2025 calls, which also confirms the intensity of service provision in this block.

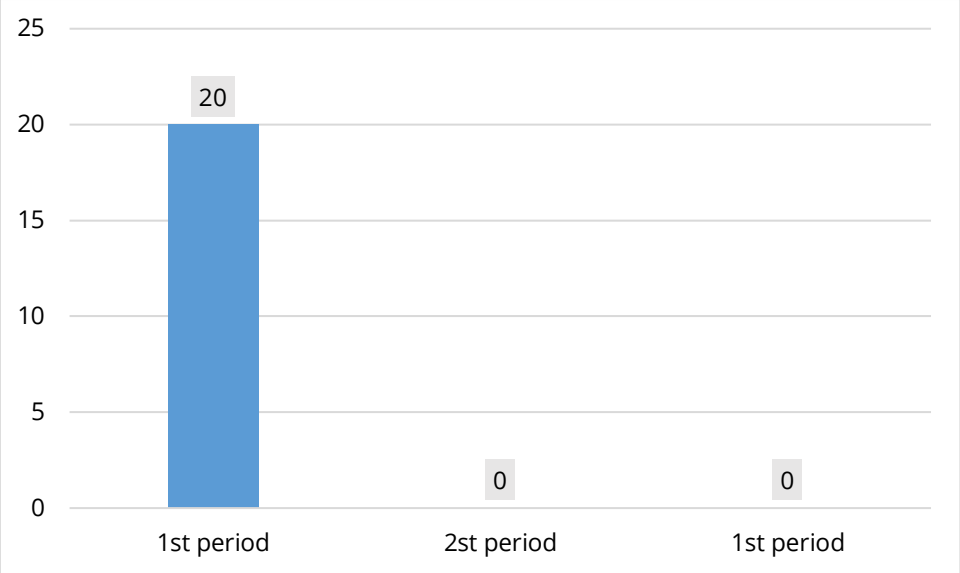

Figure 2. Number of grant support services provided

Customer characteristics

The main recipients of the services were:

- higher education institutions and research organizations;
- representatives of business (particularly in the agricultural and innovation sectors);
- local authorities and other organizations.

Consultations were delivered both in group and individual formats, involving national and international partners. A significant share of clients was focused on participation in international consortia and integration into European research networks.

Areas for improving service delivery

- the need to improve access to centralized statistical data for proper performance assessment;

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- consideration of Horizon Europe programme timelines in planning and evaluating services;
- improvement of KPI methodology, particularly the distinction between individual NCP results and national-level indicators;
- enhancement of coordination between institutions and governing bodies to provide more effective support to applicants.

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8. Final considerations

The first reporting period of service provision within the POLIDIH project demonstrates the practical relevance, flexibility, and high demand for digital services offered by the hub. The results confirm that POLIDIH has successfully established itself as a regional competence center supporting territorial communities, businesses, and institutions in the adoption of geoinformation technologies, digital solutions, automation services, professional training, and grant support.

The implementation of GIS services, information services, automation solutions, training activities, and grant support has contributed to strengthening evidence-based decision-making, improving spatial and resource management, and increasing the investment attractiveness of territories in the Polissia region. Particular value has been generated through the combination of analytical services with capacity-building activities, enabling clients not only to receive ready-made digital products but also to develop internal competencies for their further use.

The diversity of clients and use cases confirms the scalability and transferability of POLIDIH services across communities of different sizes and development levels. At the same time, the identified directions for service improvement—such as deepening analytical components, standardization of outputs, personalization of solutions, and enhancement of training formats—provide a clear roadmap for further optimization and expansion of the service portfolio.

Overall, the achieved results validate the strategic approach of POLIDIH and create a solid foundation for the next phases of service provision. Continued development of services, closer integration with European digital innovation ecosystems, and systematic dissemination of results will further strengthen the long-term impact and sustainability of the project, supporting digital transformation and resilient development of the Polissia region.

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