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| Twinning Fiche**Project title:** Strengthening the capacity for geospatial data management and interoperability of the National Cadastral Agency**Beneficiary administration:** National Cadastral Agency of the Republic of Belarus**Twinning Reference:** BY 18 ENI OT 01 18**Publication notice reference:** The publication notice reference will be completed by the European Union Delegation to Belarus |

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| **EU funded project*****TWINNING INSTRUMENT*** |

**List of Acronyms and abbreviations**

AIS MF Automated Information System of Mass Formation

BC Beneficiary Country

DIGIT Directorate-General for Informatics

EEA European Environment Agency

EaP Eastern Partnership

EIF European Interoperability Framework

ELF European Location Framework

ELISE European Location Interoperability Solutions for e-Government

ENI European Neighbourhood Instrument

EU European Union

EU D European Union Delegation in Belarus

FIG International Federation of Surveyors

GIS Geographic Information System

INSPIRE Infrastructure for Spatial Information in the European Community

IR Implementing Rules

ISA2 Interoperability solutions for public administrations, businesses and citizens

IT Information Technology

LIS Land Information System

MoU Memorandum of Understanding

MR Mandatory Result

MS Member State

MSME Micro Small and Medium Enterprise

NCA National Cadastral Agency of the Republic of Belarus

NGO Non Governmental Organisation

NSDI National Spatial Data Infrastructure

PL Project Leader

PM Project Manager

PPRD Prevention, Preparedness and Response to Natural and Man-made disasters in the EaP countries

PSC Project Steering Committee

PSI Directive on the re-use of public sector information

RTA Resident Twinning Advisor

SPC State Committee on Property of the Republic of Belarus

SDI Spatial Data Infrastructure

SEIS Shared Environmental Information System

SIDA Swedish International Development Cooperation Agency

SME Small and Medium Enterprise

STE Short Term Expert

TF Twinning Fiche

UN United Nations

**1. Basic Information**

## **1.1 Programme:** Annual Action Programme for Belarus 2017 (ENI//2017/40-509), (direct management mode)

'For British applicants: Please be aware that eligibility criteria must be complied with for the entire duration of the grant. If the United Kingdom withdraws from the EU during the grant period without concluding an agreement with the EU ensuring in particular that British applicants continue to be eligible, you will cease to receive EU funding (while continuing, where possible to participate) or be required to leave the project on the basis of Article 12.2 of the General Conditions1 to the grant agreement'

## **1.2 Twinning Number:** BY 18 ENI OT 01 18

## **1.3 Title:** Strengthening the capacity for geospatial data management and interoperability of the National Cadastral Agency (NCA)

## **1.4 Sector:** Other

## **1.5 Beneficiary country (BC):** Belarus, National Cadastral Agency (NCA)

**2. Objectives**

**2.1 Overall objective**

Enlarge the capacity of the National Cadastral Agency (NCA) in efficient and effective spatial data management in line with interoperability and harmonisation principles.

**2.2 Specific objective**

Improve the interoperable management of geospatial data in line with EU Technical Guidance[[1]](#footnote-1) to enable efficient and coordinated use of spatial data within the NCA and other state organisations and local authorities for the land management and a wider range of purposes.

**2.3 The elements targeted in strategic documents, i.e. National Development Plan/Cooperation agreement/Association Agreement/Sector reform strategy and related Action Plans**

The European Commission Implementing Decision on the Annual Programme 2017 for Belarus stresses the need to strengthen conditions for private sector-led growth by improving the business environment, upgrading innovation capacity of Small and Medium Enterprises (SMEs), increasing institutional capacity to promote private investment, and improving Micro Small and Medium Enterprise’s (MSME) access to finance and fostering structural reforms.

Component 2 of the Programme is aimed at capacity building for chosen organisations via provision of specialised expertise, transfer of skills and ad-hoc expertise based on the European experience in chosen priorities/areas/participants via the Twinning Instrument. The twinning will enable the NCA to assess constraints in managing geospatial data in an efficient way and take corrective measures towards achieving this, in very close collaboration with experts from a similar organisation of the public sector/mandated body from a EU member state. The support provided is based on the EU INSPIRE Directive that came into force in Europe in 2007 and was developed to address interoperability issues such as the ones the NCA is facing. There are furthermore other EC programmes and actions that foster interoperable data sharing and handling as described in section 3.4.

The lack of harmonisation of spatial data, and the gaps and lack of connection points with the European geospatial framework, is an impediment to Belarus in their strive towards sustainable development and good governance. Belarus, together with experts from the EU geospatial community now has a unique opportunity continue take steps to integrate and connect geospatial information into the EU development agenda, in a concerted and coordinated way, to the advantage of the citizens of the country who will benefit from the improved administrative capacity the NCA contributes, including its share in the provision of e-services.

**3. Description**

**3.1 Background and justification**

The Land Administration in the Republic of Belarus is based on the Civil Code and the Land Code. The Land Code includes the cadastral information of the country. The handling of this information is described in the Government Resolution 673, which specifies the rules for creation, maintenance, security issues etc. of information used for e-services.

The National Cadastral Agency of the Republic of Belarus (NCA) is the institution responsible for the provision of the registration of real property, rights and transactions with it, cadastral evaluation, the maintenance of address system and others. It was created in 1998 under the State Committee on Property (SPC) in order to manage the land parcel cadastre and registration rights of land in the Republic of Belarus. Private ownership of land in the country was made possible in 1993. Until then all land was State owned. The Ministry for Housing and Communal Services was in charge of managing the Technical Inventory system for cadastre and right registration for building, premises and construction. It continued with this task after the NCA had been established.

In 2002, the Parliament of the Republic of Belarus adopted the Law on State Registration of Real Property, Rights and Transactions. This Law came into force on 8 May 2003. Since then, both cadastral systems, the one of the NCA and the one under the Ministry of Housing and Communal Services, are united in a single cadastre and registration system that covers the country’s entire territory. The system is under the management of the SPC. In 2010, the Parliament of the Republic of Belarus adopted the law according to which the cadastral value, registered at the NCA, became the base for land taxation.

This approach conforms to a general EU practice and is considered the most equitable. The transition to levying real state tax on the basis of the new cadastral value equitably redistributes the tax burden among taxpayers, justifies the conditions of taxation for citizens and receives social acceptance.

The tax reform entailed the need for development of a system of cadastral valuation of real estate objects, using the cadastral value of real estate as a base for taxation - as already practiced with the taxation of land.

In the Republic of Belarus, mass valuation for land plots has been taking place since the year 2000, and in 2003 was carried out following a decision made by the Council of Ministers. In 2015 the pilot project on Mass valuation and cadastral value for buildings and other constructions as a base for taxation was started. The roll-out potential of the developed methodology is under study following the pilot project. The main task to obtain the cadastral value has been the mass formation of the cadastre and to collect relevant data from different resources into a single real estate object. This involves integrating data and information on an object from different resources that exist within the NCA, from the Ministry of Internal Affairs, the Ministry of Taxation, the Ministry of Justice, the Ministry of Housing and Communal Services and the Ministry of Architecture and Construction and from district and local stakeholders. This requires horizontal inter-ministerial coordination under a steering body or authority. Also, creating unified information for a real estate object (address information, land plot information, buildings etc.) from different information sources and relating this combined information to the spatial location in a map needs to be addressed. To this end the pilot project developed a geospatial application called the Automated Information System of Mass Formation (AIS MF) whose functionality is under review as well.

The architecture of the current cadastral system has been created in 2006. The agency captures, stores, use and/or manages data in different registers, with limited interoperability, that include spatial data.

These are the:

* United Register of Administrative-territorial and Territorial Units of the Republic of Belarus;
* United Register of Real Property, rights to it and transactions with them;
* Register of Prices of Real Property;
* Register of Land value;
* Register of Land Resources;
* Address Register of the Republic of Belarus.

The NCA also provides an Internet portal with the Public Cadastral map of the Republic of Belarus[[2]](#footnote-2) that is sourced from the above registers.

The Republic of Belarus has four “base resources” that are the basis for the creation of e-Government services. One is the Population Register managed by the Ministry of the Interior. Another one is the Registry of Legal entities and individual entrepreneurs, administered by the Ministry of Justice. The third is the Address Register and the fourth is the information on Real Estate and ownership rights and transactions. These latter two resources are managed by the NCA/SPC. A number of e-services provided by the NCA to public and private entities for property registration and registration amendments are available already via Internet through dedicated user interfaces. The agency strives to expand these digital services.

Under the umbrella of the SPC are, other than the NCA, the following organisations:

* Land Development and Land Use Organisations;
* Topographic, Geodesic and Cartographic Organisations;
* Appraisal Organisations;
* Real Estate Companies;
* Other Republican Unitary Enterprises;
* Education and Training Establishments.

Some of these entities produce and publish spatial data. There are also Internet portals for exploring the information available, such as the Land Information System (LIS)[[3]](#footnote-3).

The LIS is a public Geoportal with functionalities of a geographic information system (GIS) provided by Belgiprozem. It allows for querying and visualising furthermore process and delivery spatial information to interested parties, public and privates, on land management, geodesy, cartography, forest, real estate cadastre, telecommunications, pipeline secured territories, electronic networks, environment and natural resources, soils, rail and road transport, etc. Access to the geoportal is restricted.

Next to these State institutions there is the NGO “Land Reform” that takes an active part in the field of cadastre. The focus of their work is on dissemination of knowledge to the public to improve the understanding of how the cadastral system is developing, about administrative procedures involved in cadastral registration and of standards applied. The NGO has a good representation in international forums such as the International Federation of Surveyors (FIG).

The NCA has 6 regional offices and an office in the city of Minsk as an independent administrative unit. There are also 118 district offices. The latter are the point of contact for people wishing to register their property or make changes to the property registration. This registration is currently tied to the district office where the property is located. The quality of the data at the point of registration in local authorities gives rise to the need of error correction and quality check procedures. Besides automated processes for dealing with these issues, capacity building is needed for staff at the district offices to ensure the alignment of procedures.

Overall, the efficiency and effectiveness of data usage and management within the NCA and the collaboration with its district and regional offices is affected by the fact that the registers managed by the NCA are not yet complete in terms of digital spatial coverage of the entire country. This also includes the two Base Resources the NCA manages. Spatial data that already is being stored, maintained, updated and used in the various registers is not available in a consolidated, homogeneous and seamless approach. This applies for example in the case of coordinate systems used, so that inconsistencies occur when merging datasets for display or analysis.

At the same time, mechanisms for the exchange of spatial information with other, external stakeholders who create or use spatial information are not regulated as in Europe through the INSPIRE (Infrastructure for Spatial Information in the European Community) Directive. This lack of standards-based data exchange poses the risk of duplication of efforts and insufficient horizontal coordination in spatial data creation throughout the country.

The INSPIRE Directive that came into force on 15 May 2007 was developed to overcome interoperability issues such as the ones the NCA is experiencing. The Directive’s common principles are[[4]](#footnote-4):

* Data should be collected only once and kept where it can be maintained most effectively.
* It should be possible to combine seamless spatial information from different sources across Europe and share it with many users and applications.
* It should be possible for information collected at one level/scale to be shared with all levels/scales; detailed for thorough investigations, general for strategic purposes.
* Geographic information needed for good governance at all levels should be readily and transparently available.
* Easy to find what geographic information is available, how it can be used to meet a particular need, and under which conditions it can be acquired and used.

To allow for the implementation of spatial data discovery and sharing and exchange mechanisms, Technical Guidelines based on open standards have been developed to support implementation of interoperable services. A large number of best practice experiences have been accumulated in EU Member States that will be used in the Twinning in support of reinforcing the capacity of the NCA.

The data and service interoperability of the NCA will serve as the first step for a Public Administration Reform. Besides technical adaptability there is a need for collaboration among the different ministries and public entities that produce and manage spatial data. Also, an open mindset towards data sharing and exchange whilst maintaining organisational integrity is required. This is a process that will explicitly be fostered by the Twinning and will trigger the appropriate process for Public sector transformation.

**3.2 Ongoing reforms**

In 2015 the Council of Ministers of the Republic of Belarus initiated the Mass formation and mass property valuation pilot project covering the Soviet District of Minsk and Kobryn town and district in the Brest region. Its purpose was to assess the ability to roll-out cadastral valuation based on the real property approach (i.e. land plots and buildings together) across Belarus. The results of this pilot project will determine the formulation of the tax law reform as well as regulatory reforms on the process of collection, management and storage of real estate information.

Particularly relevant to public administration reform efforts are the recommendations made by the pilot project that refer to inter-ministerial coordination and the avoidance of data fragmentation. The experts point out that, due to the diverse kind of data that is gathered, the effective mass evaluation requires dedicated coordination, not only within the NCA but also with other Ministries such as the Ministry of Internal Affairs, the Ministry of Taxation, the Ministry of Justice, the Ministry of Housing and Communal Services and the Ministry of Architecture and Construction.

The pilot project objectives were:

* To develop and test a methodology of mass formation and cadastral valuation of property
* To make suggestions for the classification of valuation and taxation objects.
* To develop instruments of automatic collection, data keeping and transfer of mass formation and cadastral valuation of property
* To carry out cadastral valuation of taxation objects according to developed methodology of valuation.
* To estimate resources (financial and human capital) required to carry out the mass formation and cadastral valuation of property across Belarus
* To design a feasibility study of carrying out mass formation and cadastral valuation of property across Belarus.

The project results are now under analysis and outcomes and recommendations will determine the timing, cost, further technical approach and developments, training programs etc. This is done in order to ensure that the necessary changes are implemented in the law for mass formation and mass valuation. The Twinning will actively support the analysis and in so doing help inform the decision-making bodies.

**3.3 Linked activities**

A number of past and current projects have assisted in making the NCA fit for purpose with the changing needs. Co-ordination with linked activities and their results will be ensured throughout the Twinning project.

**Prevention, Preparedness and Response to Natural and Man-made disasters in the EaP countries (PPRD East 2). Country Profile Belarus.** 2015. Financed through EuropeAid, implemented by the Ministry of Emergency Situations of the Republic of Belarus.

The Country Profile established by the project includes a chapter on *Data and information sharing and the INSPIRE Directive.* Based on the conclusions and recommendations made on the analysis carried out on information sharing, the project defined a road map for the implementation of the INSPIRE Directive and a National Spatial Data Infrastructure (NSDI).

**European Neighbourhood Instrument (ENI) Shared Environmental Information System (SEIS) II EAST (ENI SEIS II EAST),** covering Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. Phase II started in February 2016 – ongoing. EU-funded.

The Shared Environmental Information System (SEIS) was established to improve the collection, exchange and use of environmental data and information across Europe and intends to create an integrated, web-enabled, EU-wide environmental information system by simplifying and modernising existing information systems and processes.[[5]](#footnote-5) SEIS II East intends to support the promotion of environmental protection by strengthening environmental governance in the participating countries. One of the expected results of the project is “Improved capacities in the national administrations to manage and use environmental data, statistics and information to support decision-making in line with EU/EEA best practices”.

**Support to the Development of Complementary Functions of Real Property Management System in the Republic of Belarus.** September 2010 to May 2014. Financed by SIDA, implemented by Lantmäteriet (The Swedish Mapping, Cadastral and Land Registration Authority) and the NGO Land Reform.

The Project contributed to the education of officials and experts in the sector and to raising awareness of the institutions, procedures and mechanisms in the land administration system.

**Improving Land Management and Urban Development in the Republic of Belarus using Contemporary Methods and Technologies.** 2016 – ongoing. Financed by SIDA, implemented by Lantmäteriet (The Swedish Mapping, Cadastral and Land Registration Authority). In Belarus the direct cooperating partner and coordinator of activities is the NGO Land Reform.

The project aims at improving Land Management and Urban Development in the Republic of Belarus using Contemporary Methods and Technologies, and through reinforcing local actors and citizen’s roles.

**Forestry Development Project in Republic of Belarus.** 2015 – ongoing. Funded by the World Bank. The project is considered relevant under the INSPIRE Directive point of view in terms of spatial data management and its spatial information systems.

The forestry development project is intended to help to modernise several aspects of forestry sector operations. The project aims, among other issues, at strengthening of the forest management information system and forest management planning capacity.

**Russian-Belarusian pilot project to create the spatial data infrastructure for the territory of the Smolensk region of Russia and the Vitebsk region of Belarus with the example of the Rudyansky and Lioznensky districts.** 2015 - ongoing. Working group composed of specialists of The Federal Service for State Registration, Cadastre and Cartography (Rosreestr) in Russia and the SPC in Belarus.

The objective of the project is to set up a standardised land classification system and other spatial information on both sides of the international border between the countries.

**Multilevel distributed regional GIS for solving problems of the status of territories and objects, phenomena and processes.** The project was developed in the framework program of Union State Monitoring between Belarus and Russia. 2014 – 2017. NCA, United Institute of Informatics of the Academy of Belarus, local executive committees.

The main aim of the project is the creation of an environment of integrated information support and planning for executive authorities and other services that use spatial data for socio-economic decision-making.

**3.4 List of applicable *Union acquis*/standards/norms**

The Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) was published in the official Journal on the 25th April 2007 and entered into force on the 15th May 2007.

The INSPIRE Implementing Rules (IR) on interoperability of spatial data sets and services and [Technical Guidelines](https://inspire.ec.europa.eu/Technical-Guidelines/Data-Specifications/2892) (Data Specifications) specify common data models, code lists, map layers and additional metadata on the interoperability to be used when exchanging spatial datasets. Also implementation tools such as the INSPIRE Geoportal are provided.[[6]](#footnote-6)

Datasets in scope of INSPIRE are ones which come under one or more of the 34 spatial data themes, set out in the [INSPIRE Directive](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX%3A32007L0002%3AEN%3ANOT). Interoperability in INSPIRE means the possibility to combine spatial data and services from different sources across the European Community in a consistent way without involving specific efforts of humans or machines. Interoperability may be achieved by either changing (harmonising) and storing existing data sets or transforming them via services for publication in the INSPIRE infrastructure.

While the Implementing Rules specify what must be implemented at an abstract and generic level, the non-binding [Technical Guidelines](https://inspire.ec.europa.eu/Technical-Guidelines/Data-Specifications/2892) specify how legal obligations could be implemented, making reference to existing geospatial standards where appropriate. Implementing these Technical Guidelines will maximise the cross-border and cross-thematic interoperability of INSPIRE spatial data sets and services as well as guaranteeing interoperability with other sectors.

Besides INSPIRE the Decision (EU) 2015/2240 of the European Parliament and of the Council of 25 November 2015 establishing a programme on interoperability solutions and common frameworks for European public administrations, businesses and citizens (ISA2) as a means for modernising the public sector is relevant. As part of this EC Directorate-General for Informatics (DIGIT) programme, the following actions support the implementation of INSPIRE:

* European Location Interoperability Solutions for e-Government (ELISE)[[7]](#footnote-7) promotes a coherent and consistent approach to the sharing and reuse of location enabled information across borders and sectors.
* European Interoperability Framework (EIF) gives specific guidance on how to set up interoperable digital public services.
* European Location Framework (ELF) delivers a pan-European cloud platform and web services to build on the existing work of the INSPIRE Directive and enable access to harmonised data in cross border applications.

In a broader sense, also the Directive 2003/4/EC on public access to environmental information and the Directive 2003/98/EC, revised by the Directive 2013/37/EU, on the sharing and re-use of public sector information, referred to as PSI Directive, are relevant for their general information scope.

**3.5 Mandatory Results**

The Twinning Programme will produce four main results called Mandatory Results or Components in that it aims to support the:

**Mandatory Result 1 (Component 1)– Increased capacity for sharing spatial data following interoperability principles of INSPIRE in Belarus.**

Create an enhanced understanding of interoperability practice in EU MS, of what spatial data is available in Belarus and how it can be explored, as well as what is available in terms of web-based service interoperability that the NCA could contribute to and benefit from in the frame of an SDI. The possibility of using data that is already available elsewhere will avoid duplication of efforts in data collection and thus save time and money.

**Sub-Result 1.1 Developed understanding of INSPIRE implementation best practices from EU Member States on cadastral applications.**

Indicator(s) of Achievement:

* Workshop material for a participatory workshop on examples of implementation of INSPIRE Technical Guidelines in EU countries and presentations on the state of SDI implementation in Belarus;
* Workshop is organised and facilitated;
* Evidence of feedback and lessons learned from participants is available and distributed to all stakeholders;
* Reports on INSPIRE implementation following study visits to MS produced by NCA IT and a GIS staff;
* Feedback sessions are organised with participants and MS project staff post study visits to provide smooth implementation lessons learned and insights gained.

**Sub-Result 1.2 Work effectively with NCA external spatial stakeholders in an inclusive and evidence-based process to review and further develop the vision on spatial data sharing in Belarus and contribute to the development and implementation of a portal for the finding, and exploration of metadata information on spatial projects in the country.**

Indicator(s) of Achievement:

* Roundtable discussions, inclusive and evidence-based, take place every three months with geospatial stakeholders to start the development of a vision for spatial data sharing in Belarus;
* Evidence of shared understanding for spatial data management among external stakeholders is provided;
* Evidence of discussions of potential actions to promote interoperability principles is provided;
* Requirements document for the Metadata portal is prepared;
* Action and business plans for the Metadata portal development and implementation are prepared;
* Contribution is given to testing the Metadata portal prototype developed by the NCA.

**Mandatory Result 2 (Component 2) – Newly acquired knowledge from experiences and lessons learned from EU Member States applied in order to define and develop harmonised spatial datasets for the NCA and its collaborators, at the different administrative levels.**

Improve the in-depth assessment of harmonisation of data from the NCA’s existing registers in order to augment the services the NCA provides. This will improve the design and development of a future consolidated, consistent and high quality spatial information base with well-defined procedures.

The increased understanding of the benefits of a harmonised database will also inform design considerations for a dedicated building information management system incorporating building floor and underground facilities plans, and will support efficiency and decision-making in State property (land) management.

**Sub-Result 2.1 Increased understanding of interoperability used to assess the requirement for the integration of information from different resources in the NCA and to develop data specifications for the data model that will allow for the harmonisation of data within the organisation.**

Indicator(s) of Achievement:

* Evidence of assessment of information flows and (geo) data processing is provided;
* Business model of the NCA information flows and data processing is prepared;
* Contribution is given to the preparation of a requirements document for a data model of the NCA as a whole based on INSPIRE Technical Guidelines and EU MS best practice.
* A plan is prepared that will improve the ratio on formation, quality and cost for the implementation of the harmonisation of data throughout the organisation, taking into consideration necessary steps, cost and time based on lessons learned from MSs that have implemented similar processes.

**Sub-Result 2.2 Methodology for Metadata creation and maintenance developed.**

Enable and facilitate efficient and effective discovery and use of the data available within the NCA through Metadata, considering the standards for interoperability used in the country already.

Indicator(s) of Achievement:

* A methodology document is prepared on the creation and maintenance of standard Metadata for spatial data of the NCA.

**Sub-Result 2.3 Quality Check Methodology developed.**

Review and assessment of the existing quality control system for data creation, elaboration and maintenance, in order to draft a methodology for the Quality Check of data capture at the stage of registration, data update and data maintenance.

Indicator(s) of Achievement:

* A review and assessment are carried out on the existing quality control system for data creation, elaboration and maintenance;
* A methodology is prepared for the Quality Check of data capture, including topology check at the stage of registration, data update and data maintenance;
* Field visits to local offices are completed and user needs, challenges, gaps and need in data capture and processing reported on.

**Mandatory Result 3 (Component 3) – Enhanced e-services capacity of the NCA and revised IT capacity.**

Requirements for increasing NCA e-services provision to its various users are reviewed and assessed. This will pave the way to an integrated and sustainable design of the services. An overall assessment of supporting hard- and software capacities and of application development will be carried out to ensure that the enhanced information management throughout the organisation that this project aims for can be designed and implemented.

**Sub-Result 3.1 Requirements reviewed for making NCA e-services accessible to users in the light of expanding the e-service provision.**

Indicator(s) of Achievement:

* Assessment and review are carried out on the user requirements for NCA e- services;
* A business model is set for the provision of NCA e-services that involve spatial information in line with national standards for interoperability.

**Sub-Result 3.2 Hard- and software requirements reviewed, assessed to implement the proposed enhanced information management throughout the organisation.**

Indicator(s) of Achievement:

* Hard- and software assessment document is prepared and proposed architecture and applications are installed for implementing the measures developed through the Twinning project and in light of future feasibility for NCA activities from the IT point of view;
* A business plan for acquisition of technology needed is elaborated and to be presented to potential funders.

**Mandatory Result 4 (Component 4) – Strengthened human capacity for data production, management and exchange, throughout the NCA and its collaborating offices at all administrative levels.**

Develop the skills and knowledge base of NCA staff at all levels on which the NCA is operating (national, regional, district) and for the various roles and responsibilities at these levels. GIS and IT staff will benefit from strengthened interoperability knowledge through participation in the annual INSPIRE conference in autumn 2019 and/or any other relevant event at European level. Any training should be developed and carried out in coordination with the SPC Training Centre.

Review, develop and enhance the input of the NCA to academic education to ensure that future staff is up-to-date with legal, technical and administrative changes and development possibilities and needs.

Indicator(s) of Achievement:

* Evidence is given of enhanced skills and knowledge of NCA staff and staff from collaborating offices, based on training action plan elaborated with the SPC Training Centre;
* Evidence is given that current input of NCA staff to educational programs, at Universities offering courses in the field of Land Registration, Land Law, GIS and Business administration, is discussed and reviewed;
* Evidence is given of registration and attendance of NCA staff (and potentially other stakeholders from collaborating offices) to the annual INSPIRE conference in autumn 2019;
* Report of the most important aspects and applicable concepts on interoperability acquired from the conference is prepared and presented to NCA and SPC.

**3.6 Means/input from the EU Member State Partner Administration(s)\***

3.6.1 Profile and tasks of the Project Leader (PL):

The Member State Project Leader (PL) is expected to be an official or assimilated agent with a sufficient rank to ensure an operational dialogue at political level. The MS PL shall coordinate the Twinning activities. This includes the dissemination of project information, participation in discussions with high level officials, presentation and oversight of project input and expected outputs, managing the project team, drafting high level project management reports, helping to overcome project-related problems and assisting the RTA. S/he will devote a minimum of 3 days per month to the project in the MS Cadastral Agency. S/he will also coordinate, from the MS side, the Project Steering Committee, which will meet in Belarus every three months. He/ she will involve other relevant entities, taking into account on-going horizontal public administration reform efforts and sectorial activities that could have an impact on the project.

 Requirements:

* University degree/education in Surveying and Mapping, Geodesy, Geoinformatics, Geography or related field, or equivalent experience of 8 years;
* Senior civil servant or equivalent staff of the MS institution;
* At least 5 years of professional experience, preferably in the field of cadastre, state property (land) management, real estate property management and geospatial data;
* Experience of working with INSPIRE implementation;
* Experience in project management;
* A very good command of written and spoken English (level C1);
* Excellent team-working skills;

Assets:

* A working knowledge of Russian (speaking/reading/writing)
* Experience with EU-funded projects.

Tasks:

* Overall coordination, guidance and monitoring of the project;
* Preparation of project progress reports with support of RTA;
* Timely achievement of the project mandatory results;
* Co-chairing of project steering committees;
* Provision of legal and technical advice and analysis whenever needed.

3.6.2 Profile and tasks of the RTA:

The Resident Twinning Advisor (RTA) will be based in Belarus to provide full-time input and advice to the project for its 24-months duration. S/he will be the main liaison partner for the beneficiary, will be responsible for the day-to-day management and will support the implementation of the activities. S/he will brief, guide and support the STEs seconded to the project and participants of study visits. S/he will provide continued guidance and support in the organisation of workshops and roundtable discussions.

Requirements:

* University degree/education in Surveying and Mapping, Geodesy, Geoinformatics, Geography or related field, or equivalent experience of 8 years;
* Senior civil servant or equivalent staff of the MS mandated body;
* At least 3 years of professional experience, preferably in the field of cadastre, state property (land) management, real estate property management;
* Experience of working with INSPIRE implementation;
* Technical expertise in one or more of the four Twinning Mandatory Results so that it enables the RTA to contribute to Twinning activities on the basis of his/her competences;
* Experience in project management;
* A very good command of written and spoken English (C1);
* Excellent team-working and team-management skills;
* Excellent stakeholder engagement and networking skills.

Assets:

* A working knowledge of Russian (speaking/reading/writing);
* Experience in workshops and roundtable discussion organisation and facilitation;
* Experience in organising and delivering training sessions.

Tasks:

* Support and coordinate all Twinning project activities in the Beneficiary Country (BC);
* Manage the day-to-day coordination and implementation of project activities, including STEs activities;
* Provide technical inputs to project activities and implementation, focussing on RTA’s area of expertise if appropriate;
* Liaise with in-country Twinning counterparts;
* Liaise with and report to the MS Project Leader;
* Draft ToRs for Short Term Experts (STEs) and coordinate their activities;
* Supervise and monitor project implementation and propose adaptations if required;
* Prepare project reports;
* Organise kick-off and project closure events and activity related workshops, roundtable meetings and training sessions;
* Organise study visits;
* Network with stakeholders of the project in Belarus and in MS;
* Promote harmonization of project activities with other existing initiatives in the same domain;
* Ensure visibility of EU support provided through the Twinning and establish communication strategy.

3.6.3 Mandatory Result Component Leaders

For each of the four mandatory results, the NCA will identify and assign a Component Leader with appropriate skills and knowledge. The Component Leader for a Mandatory Result will be in charge of planning and executing the work plan for activities defined to achieve the Mandatory Result together with the respective MS Component Leader. The initial rolling workplan and successive workplans will be consolidated by the RTA and approved during the Project Steering Committee (PSC) meetings. The Component Leaders of each Mandatory Result will work in close collaboration with the RTA. They will report to the RTA and Project Leader and their counterparts inside NCA (see the description of the counterparts under section 5.2) at the PSC meetings.

3.6.4 Profile and tasks of short-term experts (STEs):

The project will require specialist expertise that will be provided from a number of STEs who will complement each other in their work. These experts will be suitably qualified and capable of providing the necessary skills and experience to support the achievement of the results described in 3.5 above. The profiles of STE experts indicated below are indicative.

General requirements:

* Geospatial and Interoperability expertise;
* IT expertise;
* Training and capacity building / Communication expertise.
* University degree in a relevant subject or equivalent professional experience of 8 years in a related area;
* Minimum of 3 years of experience in relevant specialist area in the field of cadastre;
* Experience with technical interoperability principles and standards implementation;
* Working experience with INSPIRE implementing rules (metadata, interoperability of spatial data sets and services, data and service sharing);
* Expert experience of Geospatial data management and analysis;
* Good command of written and spoken English (C1);
* Experience of working internationally;

Assets:

* Russian language skills;
* Experience in conducting training.

Tasks:

* Provide technical inputs in specific areas of implementing Twinning activities, including:
	+ Carrying out needs assessments and compiling and drafting of assessment reports and requirements documents;
	+ Drafting of methodological materials, technical documents and work plans, in support of the Component Leaders;
	+ Preparation of workshop material and specialist presentations;
	+ Assisting and / or facilitating workshops, roundtable meetings and training sessions organisation, as per the terms of reference provided by the RTA prior to each mission;
* Liaise with the RTA, the RTA in-country Twinning counterparts and NCA Component Leaders;
* Report to the RTA.

**4. Budget**

The maximum budget available for the Twinning grant is **1.050.000,00 €**

**5. Implementation Arrangements**

**5.1 Contracting Authority:**

 The European Union Delegation to Belarus will be responsible for tendering, contracting, payments and financial reporting, and will work in close cooperation with the beneficiary.

Any written communication relating to this Contract shall be sent to either of the following addresses:

Postal address:

Mr. De Groot Berend

Head of Operations

Delegation of the European Union to the Republic of Belarus

34 A/2, Engels Street,

220030 Minsk, Belarus

Tel: +375 17 328 66 13

E-mail address:

DELEGATION-BELARUS@eeas.europa.eu

**5.2 Beneficiary and counterparts:**

Beneficiary of the Twinning is the National Cadastral Agency (NCA) of the Republic of Belarus.

 5.2.1 Project Leader counterpart is Andrei Filipenka, General Director, National Cadastral Agency.

 5.2.2 RTA counterpart is Maryna Litreyeva, Head of GIS Department, National Cadastral Agency.

**6. Duration of the project**

The execution period is 24 months.

**7. Sustainability**

The mandatory results spelled out for the Twinning will be achieved through activities that have been designed in close cooperation with the beneficiary. They are based on an understanding of the NCA’s potential to embrace the support offered, to use it appropriately and to realise the benefits that result from the Twinning for their own staff, stakeholders and users of their services and products.

Through the Twinning activities the NCA will be enabled to become more efficient and effective in their way of working. At the same time they will be equipped with capabilities to be flexible and adapt over time to changing (legal) requirements, technology and collaboration models with other stakeholders in the country and internationally – ultimately achieving a benefit on a much larger scale and becoming fit for emerging opportunities in future.

The continuity of reliable and high quality, yet cost- and time-effective work they provide to private and public alike will be enabled through the strong capacity building component in the project. It ensures that current staff in the NCA and of their collaborating offices at the regional and district level receives tailor-made training regarding methodology and skills development. Study visits and workshops will furthermore provide the opportunity to benefit from lessons learned by other institutions that have undergone similar operational changes.

Once the project is fully implemented and the mandatory results/outputs achieved, the achievements should be maintained and further developed by the beneficiary administration. This means that the beneficiary must pay adequate attention to further improving the public administration, in particular human resources management, coordination structures and accountability structures.

**8. Cross-cutting issues**

The Twinning project will implicitly be coherent with a variety of cross-cutting issues. These are:

* Open Access and Data Management – The Twinning will support the development of findable, accessible, interoperable and reusable data.
* Good Governance – The Twinning will improve the administrative capacity that is related to the services of the NCA at all administrative levels.
* Climate action and sustainable development – Through participating in the discussion on data sharing potentials among spatial data producing stakeholders in the country, there is the opportunity to inform climate change mitigation and environmental protection analyses and projects with integrated, high quality information from different sources. This can also support the formulation of recommendations and strategies for sustainable development in the Republic of Belarus, in line with the Sustainable Development Goals identified by the United Nations (UN)[[8]](#footnote-8).

**9. Conditionality and sequencing**

The NCA will provide strong commitment at all levels and cooperation and coordination with the MS team in order to enable the successful implementation of the project. The NCA will contribute the following:

* Committing and involving of NCA staff at all levels, including at the district and regional offices where applicable;
* Appointing Component Leaders for the implementation of each Mandatory Result;
* Designating a qualified NCA counterpart for each MS expert (i.e. MS Component Leaders and STEs). Counterparts for the PL and the RTA have already been designated (see section 5.2);
* Assigning/employing the necessary personnel responsible for activities connected with the project;
* Providing feedback mechanisms and briefings to the SPC;
* Ensuring coordination between institutions connected with the project and newly formed stakeholder groups;
* Ensuring access to all parties directly involved in the project to all necessary information and documents in accordance with legislation in force.

**10. Indicators for performance measurement**

* Relevant staff from the NCA at all levels, including higher management, field specialists and staff from district and regional offices where appropriate, is identified and appointed to carry out the activities and take the roles specified in the Twinning and is involved in the project implementation;
* SPC is regularly informed about project activities and initiatives, especially with external stakeholders, and their feedback/recommendations discussed and taken on board;
* Information and documents regarding the national regulatory basis applicable are provided, and relevant informative meetings are arranged;
* Appropriate facilities are prepared and provided by NCA during the project implementation process, including for training sessions and meetings (see section 11);
* Meetings with other stakeholder organisations are coordinated;
* Action plans of intentions and work plans for implementation activities are prepared, provided to all parties directly involved in the project and updated;
* Actions identified in action plans / work plans are executed and Mandatory Results and Sub-Results described under section 3.5 are achieved.

**11. Facilities available**

The beneficiaries (NCA) commit themselves to deliver the following facilities and logistics:

* Adequately equipped office space for the RTA and the RTA assistant(s) for the entire duration of their secondment;
* Supply of office space including access to telephone, internet, printer, photocopier, scanner to MS in-country staff and visiting experts;
* Adequate conditions for the STEs to perform their work while on mission to the BC;
* Suitable venues for the training sessions and meetings that will be held under the Project;
* Transport to local and regional collaborator offices as and when needed.

Security related issues will be addressed according to the standards and practices applicable for public institutions in the Republic of Belarus.

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| **Strengthening the capacity for geospatial data management and interoperability of the National Cadastral Agency (NCA)** | **Programme name and number:** ENI//2017/40-509 | **Twinning budget: 1.050.000,00 €** |
|  | **Final date for contracting:**  | **Implementation period: 24 months** |
| **Overall objective** | **Objectively verifiable indicators** | **Sources of verification** | **Assumptions** |
| Enlarge the capacity of the National Cadastral Agency (NCA) in efficient and effective spatial data management in line with interoperability and harmonisation principles. | * Contribution to enable the exchanging, integrating, managing and updating data from different resources to high quality within NCA based on interoperability principles is given;
* Contribution to the development of online tools to explore spatial data with external stakeholders is given.
 | * Satisfactory EU Project Assessment;
* Independent EU Monitoring Reports;
* Publications by NCA on updates and new services
 | * Stakeholders are committed to the Twinning programme
* Strong support and commitment from twinning partner(s)
* Relevant staff of NCA available and involved in the process.
 |
| **Specific objective** | **Objectively verifiable indicators** | **Sources of verification** | **Assumptions** |
| Improve the management of geospatial data in line with EU Technical Guidance on Interoperability to enable efficient use of spatial data within the NCA and other state organisations and local authorities for the property (land) management and a wider range of purposes. | * Documents and implementation plans for geospatial data interoperability based also on EU Directive INSPIRE issued;
* Increased production ratio (quantity/time) for Mass Formation and mass property valuation is included in activities and achieved;
* Capacity for geospatial data management enhanced at all administrative office levels of the NCA according to requirements, methods and data model specified under the project.
* Increased number of e-services accessible to public.
 | * Project documentation (assessment and analysis reports, training programmes, requirements documents, work plans etc.).
* Workshop, training, roundtable meeting documentation (List of participants, programmes, feedback documents);
* Project interim and final reports;
 | * Stakeholders are committed to the Twinning programme
* Strong support and commitment from twinning partner(s)
* Relevant staff of NCA available and involved in the process.
 |

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| **Mandatory Results** | **Objectively verifiable indicators** | **Sources of verification** | **Assumptions** |
| **Result 1 (Component 1)– Increased capacity for sharing spatial data following interoperability principles of INSPIRE in Belarus.** |
| Sub-result 1.1: Developed understanding of INSPIRE implementation best practices from EU Member States on cadastral applications. | * Workshop material for a participatory workshop on examples of implementation of INSPIRE Technical Guidelines in EU countries and presentations on the state of SDI implementation in Belarus;
* Workshop is organised and facilitated in very close collaboration and participation from SPC;
* Evidence of feedback and lessons learned from participants is available and distributed to all stakeholders;
* Reports on INSPIRE implementation following study visits to MS produced by NCA IT and a GIS staff;
* Feedback sessions are organised with participants and MS project staff post study visits to provide smooth implementation of lessons learned and insights gained.
 | * Workshop presentations materials are prepared, provided and published.
* Feedback and lessons learned are received from workshop participants and published.
* Report on study visit including activities carried out and learning achieved is compiled, published and presented in the roundtable discussions with all spatial data stakeholders.
* Project reports.
* Mission report summaries.
 | * Stakeholder commitment
* Participation from external stakeholders is active and successful
* Qualified Stakeholder staff is appointed and participates in Activities
* Material and documents necessary for the work of the STE or RTA are available in English
 |
| Sub-result 1.2: Work effectively with NCA external spatial stakeholders to review and further develop the vision on spatial data sharing in Belarus and contribute to the development and implementation of a portal for the finding, and exploration of metadata information onspatial projects in the country. | * Inclusive and evidence-based roundtable discussions take place every three months with geospatial stakeholders and to be promoted with the SPC to start the development of a vision for spatial data sharing in Belarus;
* Evidence of shared understanding for spatial data management among external stakeholders is provided;
* Evidence of discussions of potential actions to promote interoperability principles is provided;
* Requirements document for the Metadata portal is prepared;
* Action and business plans for the Metadata portal development and implementation are prepared in close collaboration from SPC;
* Contribution is given to testing the Metadata portal prototype developed by the NCA.
 | * Minutes, outcomes and recommendations of stakeholder meetings published;
* Statements of intention, action plans for coordination activities among stakeholders.
* Requirements document for Metadata portal;
* Workplan for Metadata portal development is created;
* Web Portal with spatial information projects.
 |
| **Result 2 (Component 2) – Newly acquired knowledge from experiences and lessons learned from EU Member States applied in order to define and develop harmonised spatial datasets for the NCA and its collaborators, at the different administrative levels.** |
| Sub-result 2.1: Increased understanding of interoperability used to assess the requirement for the integration of information from different resources in the NCA and to develop data specifications for the data model that will allow for the harmonisation of data within the organisation. | * Evidence of assessment of information flows and (geo) data processing is provided;
* Business model of the NCA information flows and data processing is prepared;
* Contribution is given to the preparation of a requirements document for a data model of the NCA as a whole based on INSPIRE Technical Guidelines and EU MS best practices implementations;
* A plan is prepared that will improve the ratio on formation, quality and cost for the implementation of the harmonisation of data throughout the organisation, taking into consideration necessary steps, cost and time based on lessons learned from MSs that have implemented similar processes.
 | * Minutes from NCA Roundtable meetings are produced.
* Business model is documented.
* Data model for NCA data is drafted; feedback from NCA IT staff is compiled and implemented into Data Specification document.
* Action and/or Workplan is developed, shared with NCA staff, feedback collected and comments are implemented.
* Project reports.
* Mission report summaries.
 | * Stakeholder commitment
* Qualified Stakeholder staff is appointed and participates in Activities
* Material and documents necessary for the work of the STE or RTA are available in English
 |
| Sub-result 2.2: Methodology for Metadata creation and maintenance developed. | * A methodology document is prepared on the creation and maintenance of standard Metadata for spatial data of the NCA.
 | * Methodology document is drafted and discussed with NCA IT staff.
* Workplan for Metadata creation is developed and agreed.
 |
| Sub-result 2.3: Quality Check Methodology developed**.** | * Review and assessment are carried out on the existing quality control system for data creation, elaboration and maintenance;
* A methodology is prepared for the Quality Check of data capture, including topology check at the stage of registration, data update and data maintenance;
* Field visits to local offices are completed and user needs, challenges, gaps and need in data capture and processing reported on
 | * Reports of visits to local offices and analysis of findings are compiled.
* Methodology document is drafted and discussed with NCA IT staff.
 |
| **Result 3 (Component 3)- Enhanced e-services capacity of the NCA and revised IT capacity.** |
| Sub-result 3.1: Requirements reviewed for making NCA e-services accessible to public users in the light of expanding the e-service provision. | * Assessment and review are carried out on the user requirements for NCA e-services;
* A business model is set for the provision of NCA e-services that involve spatial information.
 | * Requirements document is drafted and discussed with NCA IT staff, amended and agreed
* Presentation of results to SPC.
 | * Stakeholder commitment
* Qualified Stakeholder staff is appointed and participates in Activities
* Material and documents necessary for the work of the STE or RTA are available in English
 |
| Sub-result 3.2: Hard- and software requirements reviewed, assessed to implement the proposed enhanced information management throughout the organisation. | * Hard- and software assessment document is prepared and proposed architecture and applications are installed for implementing the measures developed through the Twinning project and in light of future feasibility for NCA activities from the IT point of view;
* A business plan for acquisition of technology needed is elaborated.
 | * Assessment document is drafted;
* Proposed Hard- and software architecture is drafted, discussed with NCA IT staff, amended and agreed.
 |
| **Result 4 – (Component 4) Strengthened human capacity for data production, management and exchange, throughout the NCA and its collaborating offices at all administrative levels.** |
| Strengthened human capacity for data production, management and exchange, throughout the NCA and its collaborating offices at all administrative levels. | * Evidence is given of enhanced skills and knowledge of NCA staff and staff from collaborating offices, based on training action plan elaborated with the SPC Training Centre;
* Evidence is given that current input of NCA staff to educational programs, at Universities offering courses in the field of Land Registration, Land Law, GIS and Business administration, is discussed and reviewed;
* Evidence is given of registration and attendance of NCA staff (and potentially other stakeholders from collaborating offices) to the annual INSPIRE conference in autumn 2019;
* Report of the most important aspects and applicable concepts on interoperability acquired from the conference is prepared and presented to NCA and SPC.
 | * Needs assessment for training programmes.
* Training plan is complete.
* Report on needs and potential areas of interest for input from NCA staff into course programmes.
* Attendants of INSPIRE conference will be required to produce a visit report.
 | * Stakeholder commitment
* Participation from external stakeholders is active and successful
* Qualified Stakeholder staff is appointed and participates in Activities
* Material and documents necessary for the work of the STE or RTA are available in English
 |

1. https://inspire.ec.europa.eu/inspire-technical-guidance/57753 [↑](#footnote-ref-1)
2. <http://map.nca.by/> [↑](#footnote-ref-2)
3. http://gismap.by/ [↑](#footnote-ref-3)
4. https://inspire.ec.europa.eu/inspire-principles/9 [↑](#footnote-ref-4)
5. https://www.eea.europa.eu/about-us/what/shared-environmental-information-system-1 [↑](#footnote-ref-5)
6. http://inspire-geoportal.ec.europa.eu/ [↑](#footnote-ref-6)
7. https://ec.europa.eu/isa2/publications/european-location-interoperability-solutions-e-government-elise-leaflet\_en [↑](#footnote-ref-7)
8. https://sustainabledevelopment.un.org/sdgs [↑](#footnote-ref-8)