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## Introduction

The INSPIRE Directive sets the minimum conditions for interoperable sharing and exchange of spatial data across Europe as part of a larger European Interoperability Framework and the e-Government Action Plan that contributes to the Digital Single Market Agenda. Article 21 of INSPIRE Directive defines the basic principles for monitoring and reporting. More detailed implementing rules regarding INSPIRE monitoring and reporting have been adopted as Commission Implementing Decision (EU) 2019/1372 on the 19th August 2019.

This country fiche highlights the progress in the various areas of INSPIRE implementation. It includes information on monitoring 2021 acquired in December 2021 and Member States update.

## State Of Play

A high-level view on the governance, use and impact of the INSPIRE Directive in Lithuania. More detailed information is available on the INSPIRE knowledge base.

### Coordination

#### National Contact Point

**Name of Public Authority:** Ministry of Environment
**Contact Email:** Click to email
**National INSPIRE Website:** http://www.geoportal.lt/geoportal/
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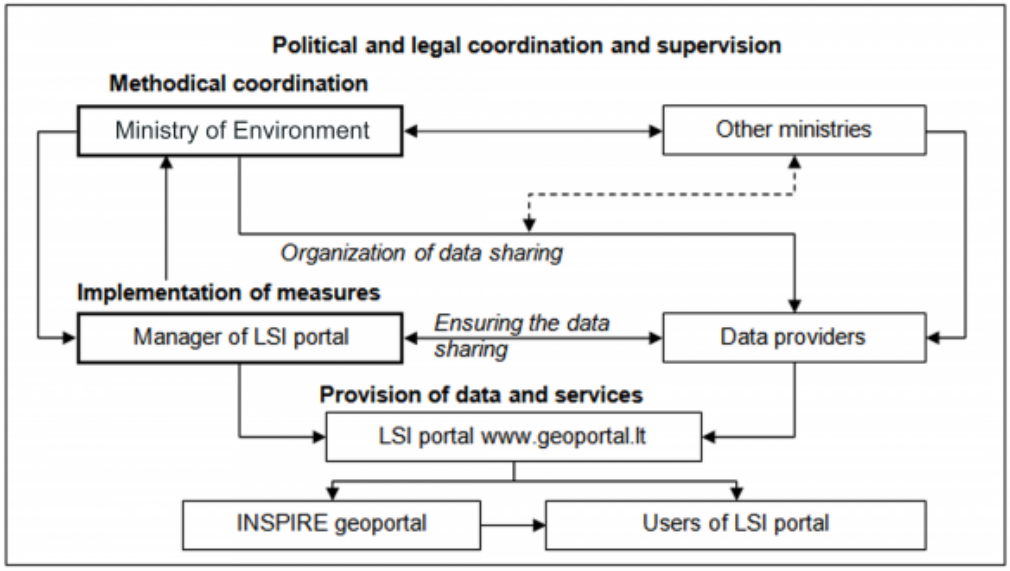


**Coordination Structure & Progress:**

- **National Contact point**

| | |
|---|---|
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- **Coordination Structure**

Ministry of Agriculture co-ordinated INSPIRE activities by 03-01-2023. Since 03-01-2023 the Ministry of the Environment is the designated governmental- authority, responsible for the implementation of the INSPIRE Directive in the Republic of Lithuania. Ministry of Environment is responsible for the development of SDI measures to ensure operational capacities of metadata, data sets, network services, sharing services for the themes referred in the Annexes of the Directive. It also maintains the link to the INSPIRE portal.

Ministry of Environment is responsible for:

- acting as a governmental representative in the INSPIRE Committee;
- monitoring the establishment and use of the spatial data infrastructure in Lithuania;
- submitting reports on the implementation of the Directive in Lithuania to European Commission.

The Law on Geodesy and Cartography of the Republic of Lithuania is the principal law transposing the Directive to national legal framework in the Republic of Lithuania. Supporting detailed requirements are stipulated in the governmental resolution and minister orders.

The Resolution of Lithuanian Government of 13 October, 2010, No. 1460 and its amendments (the latest amendment of 17 August 2022, https://www.e-tar.lt/portal/lt/legalAct/TAR.63D65F3568A2/asr) sets the list of the datasets corresponding to Annexes of the Directive, which shall be provided to users within Lithuanian spatial information infrastructure.

Lithuanian Spatial Information portal (LSI portal, www.geoportal.lt) is the main technological platform implementing the provisions of the Directive. It provides the single national access point to spatial data and services. It is the primary source of

national spatial data and services to the INSPIRE geoportal.

The manager of the LSI portal is State Enterprise “Agricultural Data Centre” (hereinafter Agricultural Data Centre). Agricultural Data Centre is responsible for:

- management of the systems of the LSI portal and ensuring a continuous operation of the services;
- content administration of the LSI portal (www.geoportal.lt);
- collection, arrangement and management of metadata;
- development and maintenance of the LSI portal web services;
- management of data license agreements;
- monitoring of the provision of spatial data and services;
- support and consultation of LSI portal users and data providers;
- ensure security of LSI portal information;
- provision of spatial data and services to the INSPIRE geoportal.

The data providers are the state and municipal authorities and other legal persons, responsible for creation and management of spatial datasets. Any data provider (state or commercial, NGOs or physical persons) can share their spatial data in the LSI portal free of charge if the data are considered being valuable for the society.

In accordance to the procedure and under the conditions laid down by the Law on Geodesy and Cartography and the LSI Portal Regulation, the manager of the LSI portal maintains data provision agreements with the LSI portal spatial data providers .

Provision of spatial data and services to the INSPIRE geoportal is also regulated by data provision agreements. Data providers are responsible for a transformation of spatial data according to the INSPIRE data specifications. LSI portal manager is responsible for creating INSPIRE compliant metadata and network services of the datasets. LSI portal manager provides regular consultations on LSI portal benefits and organizes trainings on proper provision.

Users of the services of the LSI portal are physical and legal persons who use the data of the LSI portal, spatial data sets and their metadata through the spatial data services and interactive e-services of the LSI portal.

**Progress**

Two major organisational changes have taken place during 2022.

- Reorganisation of the LSI portal manager. On 3 January 2023, the new state enterprise “Centre for Agricultural Data” was established, merging three state enterprises, including former operator of the LSI portal State Enterprise “GIS-Centras”. After the merge responsibilities on a maintenance of LSI portal is carried by the Spatial Information Department within the Agricultural Data Centre.
- In January 2023, the Ministry of the Environment has taken over the supervision of the LSI portal and implementation of INSPIRE in Lithuania.

As a result of the war in Ukraine in 2022 due to a potential threat to public security and national defense, under the request by Ministry of Defence, public access in LSI portal to view and downloads services of large scale orthophoto maps, elevation and utility data was temporally restricted.

Some separate datasets within one INSPIRE theme have been combined into one dataset. Although the total number of datasets was thus reduced, we believe that this approach is more efficient and more convenient for the users.

Interactive services of the LSI portal have been improved and extended. The functionality, including usage by mobile devices, was improved. Links of the LSI portal with 33 state and business information systems have been maintained.

### Functioning and coordination of the infrastructure

- The objective of the LSI portal is to facilitate a centralised access to spatial data sets, webservices and their metadata. The LSI portal allows an integration of public sector spatial information, data from state registers and information systems, and other location related information.
- The LSI portal manager maintains data provision agreements with all responsible state spatial data suppliers (state and municipal organisations) corresponding to INSPIRE themes.
- Many state and municipal authorities exploit data and webservices from LSI portal managing their tasks needed operations with spatial content. The free of charge LSI webservices are widely utilized by public and private users gathering relevant state information and arranging base maps in various information systems and e-services.
- The network services of the LSI portal are publicly accessible at www.geoportal.lt in Lithuanian and English user interfaces. Common usage terms of LSI service applied to all users either public or private.
- Data and webservices of the LSI portal greatly contributed to an increase of competence and knowledge of spatial data users. Users more often take decision and solve business issues applying spatial information, especially in spatial planning. Such tendencies have been tracked in the LSI portal by the increased recurrency of applied webservice and more comprehensive nature of the queries and user requests.

### Usage of the infrastructure for spatial information

- The usage of the Lithuanian Spatial Infrastructure continuously increases at moderate pace that has slowed down since 2018 and is now 3 to 5 % yearly, depending on indicator. At the end of 2022 total number of provided services reached 3,6 million and the number of registered users exceeded 22 000. As a result of the war in Ukraine in 2022 due the temporal restriction to spatial data referred to a potential threat to public security and national defense, the data use in LSI portal slowed down .
- The LSI portal is popular amongst personal (non-commercial) and commercial users.  About 40 % of users are from the non-governmental sector. Research and academic organisations comprise about 10% of all users.
- The LSI platform allows Lithuanian public administration bodies to work more efficiently. Specific legislations in the INSPIRE themes related activities demand authorities in providing spatial data to the LSI portal and public services, help increasing quality of reports, increase and better visualised argumentation for decisions making or public consultation activities.
- Lithuanian public administration bodies still lack competence and human resources to make best use of the infrastructure. Continuous training and user consultation on optimal use of LSI portal tools and operational capacities of spatial data is still beneficial.
- The LSI data services are particularly important to municipal and state authorities which have limited resources, but shall perform public administration tasks applying spatial data (e.g., to check out the specific location and grant an authorisation for cutting down a tree or to measure a distance to river or lake). Spatial data, provided by the LSI portal facilitate in solving various analytical issues, contributing to improve workloads and adding an extra value in a various information systems.
- Providers of spatial information services are more interested in utilizing the LSI webservices than creating own webservices.
- The augmenting number of publicly accessible spatial datasets in the LSI portal increase an awareness of state investments to spatial content and promote a wider use of open data nationally and internationally.
- Legislative framework of Lithuanian spatial data infrastructure helps to avoid duplications in collecting spatial data by state authorities, thus imposing a decrease of a number of state spatial datasets but extend the scope and integrity of spatial objects.

| **Indicator (end of the year)** | **2015** | **2018** | **2019** | **2020** | **2021** | **2022** |
|---|---|---|---|---|---|---|
| Registered users | 9116 | 17976 | 20 000 | 23 286 | 25343 | 22466 |
| Total No. of services provided, Mio | 1,31 | 3,21 | 4,45 | 3,7 | 3,92 | 3,63 |

### Data sharing arrangements

- Compared with the previous period, more open data has been introduced in the LSI portal and procedures to access some of the spatial data have been simplified.
- According to the law on Geodesy and Cartography state spatial datasets are licensed according to *Creative Commons* licensing templates, and a majority of such datasets are available to licensed users free of charge.
- Agreements on provision of data are reached by harmonising the regulations on information systems amongst the designated authorities. Most of data provision agreements are standardised, but there are also specific conditions in some agreements that depend on the nature of data services and on the policies of the data owner. Agreements typically specify the subject matter of the agreement, legal basis for the provision of data, obligations of the parties, data protection rules, etc.
- Data sharing between state and municipal authorities is governed by regulations on relevant information systems where external spatial data flows and their sources are specified.

In accordance with the Law on Geodesy and Cartography, spatial data sets and services, required by institutions of the European Union, state authorities and municipalities to carry their public tasks or to arrange reports in accordance with European Union legislation relating to the environment, shall be provided free of charge. Providers of spatial data sets have the right to restrict access to spatial data sets via the LSI portal if such exception is stipulated in laws. Community institutions and bodies may use webservices of the LSI portal under the same procedure as they are used by legal and natural persons in Lithuania, by signing such agreements on the use of data as provided for a specific spatial data set provided through the webservice of the LSI portal. Conditions of the agreements on the use of data are available in Lithuanian and English.

### Costs and benefits

It is difficult to separate costs for general LSI development, LSI portal maintenance and development and specific INSPIRE Directive implementation costs. The costs incurred during the reference period are divided into two parts:

- One time project costs for the implementation of INSPIRE network services, metadata and spatial data sets in the LSI infrastructure.
- Annual maintenance costs for the LSI portal covering the following categories:
    - Hardware maintenance costs (around 30 % related to INSPIRE),

- Software maintenance costs (around 25 % related to INSPIRE – reduced by introduction of open-source technology),
- Maintenance work costs (around 30 % related to INSPIRE),
- Monitoring and reporting costs (around 10 % related to INSPIRE).

| Year | LSI development projects (EU structural funds and State budget co-financing), EUR | LSI hardware and software maintenance, administration, management (State budget), EUR |
|---|---|---|
| 2009–2015 | 7755048 | 1489723 |
| 2016 | | 278.000 |
| 2017 | | 276.000 |
| 2018 | 228.813 | 391.000 |
| 2019 | 400.000 | 496.000 |
| 2020 | 386.600 | 683.000 |
| 2021 | 52.795 | 646.400 |
| 2022 | | 667.000 |

- LSI data providers (but not all) indicate relatively low annual costs (in average – about 60 000 EUR) occurred due to the obligation to follow the requirements of the Directive. The costs were accommodated in the annual state budget

As the costs of the implementation of the Directive are inseparable from the benefits provided by the LSI and the LSI portal, any claims regarding the possible development of the national spatial data infrastructure without the Directive would be speculative. The Directive had an undoubted influence on the spatial data strategy in Lithuania.

The following benefits are considered directly related to the implementation of the Directive:

- The Directive created a legal framework for pursuing interoperability and common use of spatial data. This simplifies arranging relevant agreements with spatial data providers and setting webservices.
- The Directive creates an obligation to provide metadata thus informing users about the existing spatial data sets. As a result of implementation of this requirement, the awareness of the authorities and the public to the existence of information resources collected by the state has increased manifold.
- INSPIRE promotes public provisions to open and monitor spatial data and their use. We shall confirm that, in the absence of the legal obligations, some data providers would not be interested in disclosing their data sets. The directive imposed better understand the user demands and adjust the development of state spatial data according to those demands.

Evidence of direct benefits observed in Lithuania:

- Adoption of the Directive led to focused policy development in the field of spatial information;
- Benefits observed in the field of environmental policy: obligation to improve the quality of existing data and provide modern spatial data services;
- The understanding among the authorities of the benefits of spatial information, integration of various data to spatial data (location based) and the possibilities of using them in decision-making has improved.
- Society is better informed and the demand for spatial data services have been increased;
- More projects are implemented, and spatial data products created. There is a growing number of initiatives related to a broader use of spatial data and innovative webservices.

Much greater economic and social benefits are generated at the national level as the overall outcome of the functioning of the infrastructure for spatial information. Aspects of the common benefits generated by the LSI are the same as have been indicated in the previous reports:

1. Economic benefits achieved as a result of the increased efficiency. These benefits are primarily quantified in work time costs; by multiplying these costs by an average salary of an employee from a relevant field, an expression of these benefits in financial terms may be obtained; however, it must be noted that work time saving does not in itself guarantee financial benefits, thus it cannot be classified as direct benefits. The assessment of the cost-benefit analysis of the implementation of the Directive during the reference period in each year of functioning of the Lithuanian Spatial Information Infrastructure identified **savings** of around 40.000 working days. Overall economic benefit in 2022 amounted to **annual EUR 55 million**.
2. Indirect benefits achieved as a result of greater spatial data and existing LSI tools for decision-making. Where decision-makers are better informed, this leads to less problems and arguments, and the resulting financial and time costs are reduced. Examples of such benefits are as follows:

- Improved availability and transparency of spatial data sets resulted in a smaller number of territorial pre-litigation disputes and legal proceedings arising out of the incompatibility of spatial data sets;
- The land owners being able to view parcel data online, they are better informed, resulting in lower fines for abandoned land administration; the use (restitution) of land more effective resolution of issues;
- More effective registration of errors and a smaller number of related errors in spatial data sets;
- A number of reduced duplication of spatial data sets (it is unnecessary to keep copies available online) and no need for repeated efforts to collect similar data sets.

3. Indirect benefits achieved as a result of increased use of spatial information to create various services and new spatial data sets. Examples of such benefits are as follows:
   - Higher number of ongoing projects for the development of spatial information systems, greater demand for professionals, new jobs;
   - New spatial data sets are created by using the main national spatial data sets, thereby conferring added value to the collected information, for example, maps displaying the distribution of criminal offences, tourist routes, objects of folklore and literature;
   - Charter distributed data collection (crowdsourcing) by users create spatial data sets, for example, error or issue notifications, tourist information, etc.
4. Indirect social benefits primarily linked to improved awareness and motivation at all levels:
   - strengthened cooperation between different organisations by using the same spatial data as an instrument for interconnection;
   - qualitatively new possibilities for using spatial information, increasing number of creators of spatial data and added-value services, especially among educational institutions; less investments in hardware and software and more investments in innovative products;
   - better citizens' awareness of the living and business environment, ability to use spatial analysis tools and more active participation in decision-making; better awareness of officials is linked to expected higher rates of "good" decisions (i.e. fully justified taking account of the more influential environmental factors) decisions.

## Key facts and figures

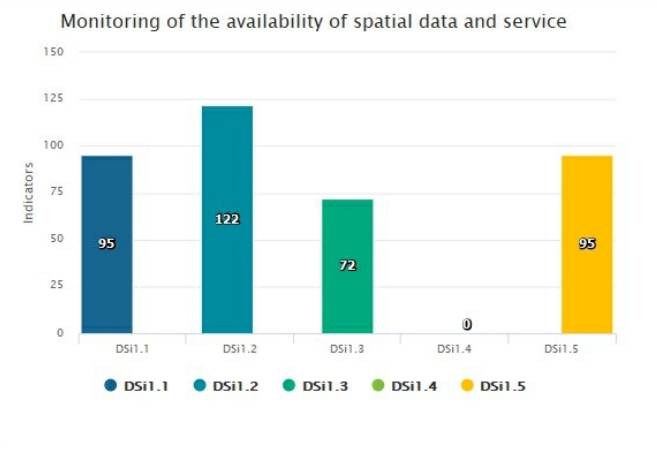
# Lithuania

### Indicators in support of Commission Decision (EU) 2019/1372 implementing Directive 2007/2/EC (INSPIRE) as regards to monitoring and reporting

Graphs generated with data taken from: https://inspire-geoportal.ec.europa.eu/mr2022_details.html?country=lt

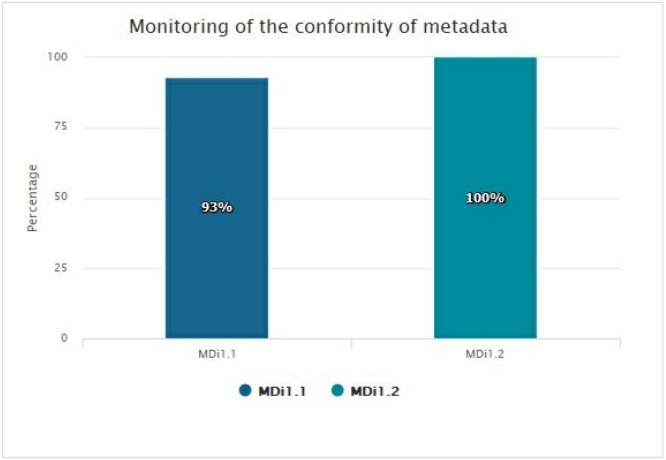
The date of harvest metadata: *2022-12-19, 19:38:34*

Endpoint: *70a8afd-bd30-4bc6-a044-cbbc46c89c68*



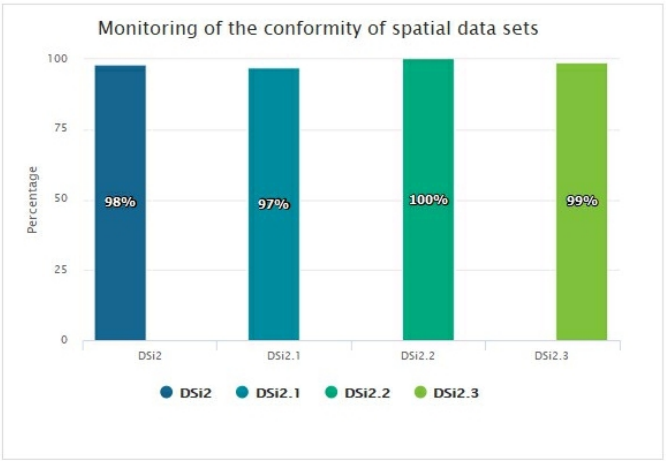

Legend

| Indicator | Definition |
|---|---|
| DSi1.1 | The number of spatial data sets for which metadata exist |
| DSi1.2 | The number of spatial data services for which metadata exist |
| DSi1.3 | The number of spatial data sets for which the metadata contains one ormore keywords from a register provided by the Commission indicating that the spatial data set is used for reporting under the environmental legislation |
| DSi1.4 | The number of spatial data sets for which the metadata contains a keyword from a register provided by the Commission indicating that the spatial data set covers regional territory |
| DSi1.5 | The number of spatial data sets for which the metadata contains a keyword from a register provided by the Commission indicating that the spatial data set covers national territory |



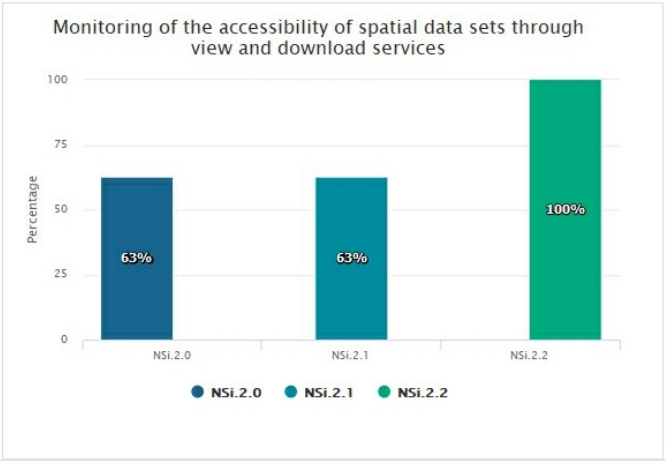

Legend

| Indicator | Definition |
|---|---|
| MDi1.1 | Percentage of metadata for spatial data sets conformant with Commission Regulation (EC) No 1205/2008 as regards metadata |
| MDi1.2 | Percentage of metadata for spatial data services conformant with Commission Regulation (EC) No 1205/2008 as regards metadata |



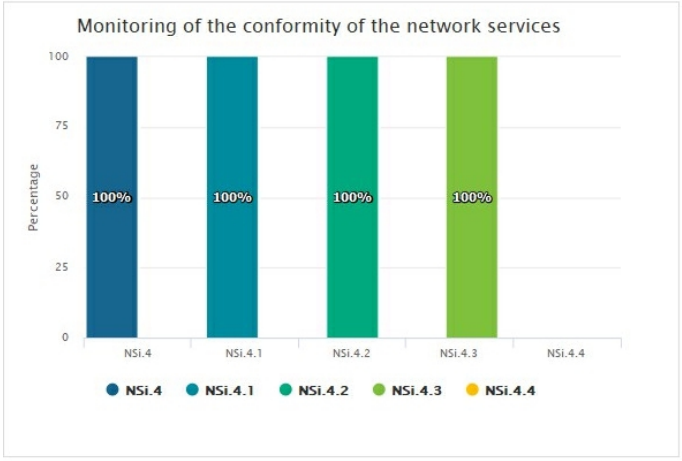

Legend

| Indicator | Definition |
|---|---|
| DSi2 | Percentage of spatial data sets that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets |
| DSi2.1 | Percentage of spatial data sets, corresponding to the themes listed in Annex I,that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets |
| DSi2.2 | Percentage of spatial data sets, corresponding to the themes listed in Annex II, that are in conformity with Commission Regulation (EU) No 1089/2010as regards interoperability of spatial data sets |
| DSi2.3 | Percentage of spatial data sets, corresponding to the themes listed in Annex III,that are in conformity with Commission Regulation (EU) No 1089/2010 as regards interoperability of spatial data sets |




Legend

| Indicator | Definition |
|---|---|
| NSi.2.0 | The Percentage of spatial data sets that are accessible through view and the download services |
| NSi.2.1 | The Percentage of spatial data sets that are accessible through view services |
| NSi.2.2 | The Percentage of spatial data sets that are accessible through download services |




Legend

| Indicator | Definition |
|---|---|
| NSi.4 | Percentage of the network services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services |
| NSi.4.1 | Percentage of the discovery services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services |
| NSi.4.2 | Percentage of the view services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services |
| NSi.4.3 | Percentage of the download services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services |
| NSi.4.4 | Percentage of the transformation services that are in conformity with Commission Regulation (EC) No 976/2009 as regards the Network Services |