



European  
Commission

**DG DIGIT**  
**Unit D2**

## **EIF Monitoring Mechanism for Member States**

**KPIs database**



KPI ID	Scoreboard	Thematic Area	Recommendation	KPI Description	Type of data	Data Source	Unit of Measurement	Unit of Measurement - Description
KPI 01	12 Principles	Principle 1	Recommendation 1	Extent to which strategies or frameworks take the EIF into account	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	1-5 Likert scale	-1 means strongly disagree; -5 means strongly agree.
KPI 02	12 Principles	Principle 2	Recommendation 2	Open data maturity	Secondary	<a href="#">European Open Data portal</a>	0-2500 discrete scale	-0 means that a country scores the minimum level for Open Data Maturity (a composite indicator that assesses the Openness of Data); -2500 means that a country has reached full Open Data Maturity.
KPI 03	12 Principles	Principle 2	Recommendation 2	Existence of national guidelines on the publication of Public Sector Information (Q1.12)	Secondary	<a href="#">European Open Data portal</a>	0-10 three-point scale	-0 means that a country does not have national guidelines on the publication of Public Sector Information; -5 means that it is ongoing; -10 means that a country has national guidelines on the publication of Public Sector Information.
KPI 04	12 Principles	Principle 2	Recommendation 2	Extent to which the opening of Public Sector Information has been imposed after the transposition of the revised PSI Directive into national law (Q1.4)	Secondary	<a href="#">European Open Data portal</a>	10-20 two-point scale	-10 means that the national law recommends the opening of Public Sector Information after the transposition of the PSI Directive; -20 means that the national law imposes the opening of Public Sector Information after the transposition of the PSI Directive.
KPI 05	12 Principles	Principle 2	Recommendation 2	Number of open datasets published by Member States	Secondary	<a href="#">European Open Data portal</a> Other source: <a href="https://www.europeandataportal.eu/datasets?locale=en&amp;myervuopen%">https://www.europeandataportal.eu/datasets?locale=en&amp;myervuopen%</a>	(1) 0-N discrete scale	-0 means that a country does not publish Open Datasets -N means that a country has published N Open Datasets
KPI 06	12 Principles	Principle 2	Recommendation 3	Active consideration of the use of open source software when developing new IT solutions, account for it in the total cost of ownership of the IT solution	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that, a country does not demonstrate active and fair consideration of using open source software, account for it in the total cost of ownership of the solution the solution; -1 means that a country demonstrates active and fair consideration of using open source software, account for it in the total cost of ownership of the solution.
KPI 07	12 Principles	Principle 2	Recommendation 4	Promotion of the use of open specification to public administrations	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that, a country does not promote the use of open specifications to public administrations; -1 means that a country promotes the use of open specifications to public administrations.
KPI 08	12 Principles	Principle 3	Recommendation 5	Extent to which a Member States is meeting the requirements set by the Single Digital Gateway Regulation on the online availability and accessibility of the administrative procedures	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	1-4 Likert scale	-1 means the requirements are not met at all; -4 means the requirements are met to a great extent.
KPI 09	12 Principles	Principle 4	Recommendation 6	Extent to which Member States apply the recommended measures for central bodies of the European Sharing and Reuse Framework to check the reuse of existing IT solutions before developing a new one	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-4 discrete scale	-0 means that, in a country, none the recommended measures for central bodies of the European Sharing and Reuse Framework are applied; -4 means that, in a country, all the recommended measures for central bodies of the European Sharing and Reuse Framework are applied.
KPI 10	12 Principles	Principle 4	Recommendation 6	Existence of collaborative platforms in each Member State that facilitate the reuse, sharing and development of IT solutions (e.g. open source software, semantic assets)	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country does not have collaborative platforms that facilitates the reuse, sharing and development of IT solutions; -1 means that a country has collaborative platform that facilitates the reuse, sharing and development of solutions.
KPI 11	12 Principles	Principle 4	Recommendation 7	Existence of an Open Data portal (extent to which data can easily be found at one central place for reuse purposes) (Q3.0)	Secondary	<a href="#">European Open Data portal</a>	0-10 two-point scale	-0 means that a country does not have an Open Data portal (extent to which data can easily be found at one central place for reuse purposes); -10 means that a country has an Open Data portal (extent to which data can easily be found at one central place for reuse purposes).
KPI 4	12 Principles	Principle 4	Recommendation 7	Extent to which the opening of Public Sector Information has been imposed after the transposition of the revised PSI Directive into national law (Q1.4)	Secondary	<a href="#">European Open Data portal</a>	10-20 two-point scale	-10 means that the national law recommends the opening of Public Sector Information after the transposition of the PSI Directive; -20 means that the national law imposes the opening of Public Sector Information after the transposition of the PSI Directive.
KPI 12	12 Principles	Principle 4	Recommendation 7	Existence of policies supporting the reuse of Public Sector Information within public administration, by the private sector (Q1.5)	Secondary	<a href="#">European Open Data portal</a>	0-20 five-point scale	-0 means that a country does not have policies supporting the reuse of Public Sector Information (within public administration, by the private sector); -20 means that a country has policies supporting the reuse of Public Sector Information (within public administration, by the private sector).
KPI 13	12 Principles	Principle 4	Recommendation 7	Reuse of Open Data in decision making (Q2.21)	Secondary	<a href="#">European Open Data portal</a>	0-20 four-point scale	-0 means that a country does not reuse Open Data in decision making (i.e. are public administrations making use of the data as evidence to be included in evidence based policy making); -10 means... -20 means that a country reuses Open Data in decision making (i.e. are public administrations making use of the data as evidence to be included in evidence based policy making).
KPI 14	12 Principles	Principle 4	Recommendation 7	Instance of national, regional or local events (e.g. hackathons or other Open Data events) held annually to promote Open Data and PSI reuse (organised by public, private or third sector organisations) (Q1.26)	Secondary	<a href="#">European Open Data portal</a>	0-20 four-point scale	-0 means that, in a country, there is no national or regional event held annually to promote data and PSI reuse; -10 means that, in a country, there is 1 national event, or 1-2 regional events or 1-3 local events held annually to promote data and PSI reuse; -15 means that, in a country, there are 2-3 national events, or 3-4 regional events or 4-5 local events held annually to promote data and PSI reuse; -20 means that, in a country, there are more than 3 national events, or more than 4 regional events or more than 5 local events held annually to promote data and PSI reuse.
KPI 15	12 Principles	Principle 4	Recommendation 7	Existence of monitoring activities to measure the re-use of the own open data of the Member States.	Secondary	<a href="#">European Open Data portal</a>	0-20 five-point scale	-0 means that a country has not noted any changes in the reuse of data since mid 2016; -10 -15 -20 means that a country has noted changes in the reuse of data since mid 2016.
KPI 16	12 Principles	Principle 4	Recommendation 7	Existence of specific activities to support for the reuse of Open Data (Q2.6)	Secondary	<a href="#">European Open Data portal</a>	0-20 four-point scale	-0 means that a country does not support the reuse of Open Data; -10 -15 -20 means that a country supports the reuse of Open Data.
KPI 17	12 Principles	Principle 4	Recommendation 7	Existence of specific communication activities to promote national Portal or Open Data in general (Q3.48)	Secondary	<a href="#">European Open Data portal</a>	0-10 three-point scale	-0 means that a country has not launched any specific activities to promote its Portal or Open Data in general; -5 -10 means that a country has launched specific activities to promote its Portal or Open Data in general.
KPI 18	12 Principles	Principle 4	Recommendation 7	Existence of references of the reuse of Open Data in your National Open Data portal (Q3.11)	Secondary	<a href="#">European Open Data portal</a>	0-10 three-point scale	-0 means that a country has not included examples of the reuse of Open Data in its Open Data portal; -5 -10 means that a country has included examples of the reuse of Open Data in its Open Data portal.
KPI 19	12 Principles	Principle 5	Recommendation 8	Extent to which citizens and businesses are free to adopt technologies or IT products that are most appropriate for their needs when accessing or reusing public services	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country doesn't provide national guidelines to its administrations in order to minimise technological dependencies, to avoid imposing specific technical implementations when establishing public services; or that they "don't know"; -1 means that a country provides guidelines to its administrations in order to minimise technological dependencies, to avoid imposing specific technical implementations when establishing public services.
KPI 20	12 Principles	Principle 5	Recommendation 9	Extent to which data is easily transferable between systems and applications	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	1-5 Likert scale	-1 means strongly disagree; -5 means strongly agree.
KPI 21	12 Principles	Principle 6	Recommendation 10	Internet use - Interaction with public authorities	Secondary	<a href="#">Eurostat - Table E-government activities of individuals via websites</a>	0-100% percentage scale	-0% means that, in a country, no one performs eGovernment activities via websites; -100% means that in a country everyone performs eGovernment activities via websites.
KPI 22	12 Principles	Principle 6	Recommendation 10	Digital Public Services Dimension comprising of eGovernment (DESI_5_DPS)	Secondary	<a href="#">DESI Indicators</a>	0-100% percentage scale	The Digital Public Services dimension consists of four indicators: 1) percentage of internet users who have sent completed forms to a public administration via the internet (eGovernment users indicator); 2) level of sophistication of a country's eGovernment services (the pre-filled forms indicator, which measures the extent to which data that is already known to the public administration is pre-filled in forms presented to the user); 3) level of completeness of a country's range of eGovernment services (the online service completion indicator, which measures the extent to which the various steps in an interaction with the public administration can be performed completely online); 4) government's commitment to open data (open data indicator).
KPI 23	12 Principles	Principle 6	Recommendation 10	Mobile Friendliness	Secondary	<a href="#">EU eGovernment Benchmark Report 2019</a>	0-100% percentage scale	-0% means that websites of public administrations do not provide services through a mobile-friendly interface; an interface that is 'adapted' to the mobile device; -100% means that websites of public administrations provide services through a mobile-friendly interface; an interface that is 'adapted' to the mobile device.
KPI 24	12 Principles	Principle 6	Recommendation 11	Existence of a single points of contacts in the areas of information relevant for citizens and businesses	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-17 discrete scale	-0 means that a country has not Point of Single Contact in the areas of information relevant for citizens and businesses ; -17 means that a country has Points of Single Contacts in all the areas of information relevant for citizens and businesses.
KPI 25	12 Principles	Principle 6	Recommendation 12	Existence of a customer-centric approach to design and deliver public services used by public administrations	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country doesn't have a customer-centric approach to design and deliver public services used by public administrations or that they "don't know"; -1 means that a country has a customer-centric approach to design and deliver public services used by public administrations.
KPI 26	12 Principles	Principle 6	Recommendation 13	Extent to which the five major Base Registries (Population, Vehicle, Tax, Land, Business) are available for reuse in digital public services	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-5 discrete scale	-0 means that, in a country, multilingualism is not considered for data representation in the Base Registries; -5 means that, in a country, multilingualism is considered for data representation in ALL the Base Registries.
KPI 27	12 Principles	Principle 6	Recommendation 13	Usage of authentic sources	Secondary	<a href="#">EU eGovernment Benchmark Report 2019</a>	0-100% percentage scale	-0% means that a country does not use the authentic sources system to validate information; -100% means that a country fully uses the authentic sources system to validate information.
KPI 28	12 Principles	Principle 7	Recommendation 14	Compliance with the European accessibility standards of the Directive on the accessibility of the websites and mobile applications of public-sector bodies	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-5 discrete scale	-0 means that in a country the public sector eGovernment portals are not compliant at all with the Directive of the accessibility of the website and mobile applications of public sector bodies; -5 means that in a country the public sector eGovernment portals are fully compliant with the Directive of the accessibility of the website and mobile applications of public sector bodies.
KPI 29	12 Principles	Principle 8	Recommendation 15	Level of security and privacy defined for public authorities	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that, a country does not have security and privacy frameworks defined for public authorities to ensure a secure and trustworthy environment for citizens and businesses; -1 means that a country has security and privacy frameworks defined for public authorities to ensure a secure and trustworthy environment for citizens and businesses.
KPI 30	12 Principles	Principle 9	Recommendation 16	Extent to which users of each of the 21 proposed procedures across the 7 life events of the Single Digital Gateway initiative are able to access instructions for completing the procedure in an official EU language broadly understood by the largest possible number of cross-border users	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	1-5 Likert scale	-1 means strongly disagree; -5 means strongly agree.

KPI 31	12 Principles	Principle 9	Recommendation 16	Cross-border Mobility for life event 'Regular business operations'	Secondary	<a href="#">EU eGovernment Benchmark Report 2019</a>	0-100% percentage scale	-0% means that a country has scored the minimum in cross-border mobility for the indicators: LIFE EVENT Regular business operations; -100% means that a country has scored the maximum in cross-border mobility for the indicators: LIFE EVENT Regular business operations.
KPI 32	12 Principles	Principle 9	Recommendation 16	Cross-border Mobility for life event 'General administration: moving'	Secondary	<a href="#">EU eGovernment Benchmark Report 2019</a>	0-100% percentage scale	-0% means that a country has scored the minimum in cross-border mobility for the indicator: General administration moving; -100% means that a country has scored the maximum in cross-border mobility for the indicator: General administration moving.
KPI 33	12 Principles	Principle 9	Recommendation 16	Total number of language resources in different Member States	Secondary	<a href="#">CEF - Digital monitoring dashboard</a>	(2) 0-4 discrete scale	-N is the total number of language resources
KPI 34	12 Principles	Principle 10	Recommendation 17	Online Availability - User Centricity	Secondary	<a href="#">EU eGovernment Benchmark Report 2019</a>	0-100% percentage scale	-0% means that, in a country, services are not online; -50% means that, in a country, only the information related to services is online; -100% means that, in a country, services are fully online.
KPI 35	12 Principles	Principle 10	Recommendation 17	User Centricity for citizen and business life events	Secondary	<a href="#">EU eGovernment Benchmark Report 2019</a>	0-100% percentage scale	-0% means that services in a country do not meet users' expectations, they are not needs based and user-centric; -100% means a country has fully user-centred services. Services fully meet users' expectation, they are needs based and user-centric.
KPI 36	12 Principles	Principle 10	Recommendation 17	Online Availability - Citizen cross border mobility	Secondary	<a href="#">EU eGovernment Benchmark Report 2019</a>	0-100% percentage scale	-0% means that a country does not have user-centred services at all. This means that services do not meet users' expectations, they are not needs based and user-centric; -100% means that a country has a full provision of user-centred services. This means that services fully meet users' expectations, they are needs based and user-centric.
KPI 37	12 Principles	Principle 10	Recommendation 17	Online Availability - Business cross border mobility	Secondary	<a href="#">EU eGovernment Benchmark Report 2019</a>	0-100% percentage scale	-0% means that a country does not have user-centred services at all. This means that services do not meet users' expectations, they are neither needs based nor user-centric; -100% means that a country has a full provision of user-centred services. This means that services fully meet users' expectations, they are needs based and user-centric.
KPI 38	12 Principles	Principle 11	Recommendation 18	Existence of long-term preservation policy for information owned and management by public administrations	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country does not have policy for information owned and management by public administrations; -1 means that a country has policy for information owned and management by public administrations.
KPI 39	12 Principles	Principle 12	Recommendation 19	Extent to which public administrations evaluate the efficiency and effectiveness of interoperability solutions	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-9 discrete scale	-0 means that, in a country, public administrations do not evaluate the efficiency and effectiveness of interoperability solutions; -9 means that, in a country, public administrations evaluate the efficiency and effectiveness of interoperability solutions measuring all the main 9 aspects.
KPI 40	Interoperability Layers	Interoperability governance	Recommendation 20	Existence of holistic governance of interoperability activities across all administrative levels (local, regional and national) and sectors	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country doesn't have a holistic governance of interoperability activities across all administrative levels (local, regional and national) and sectors or that they "don't know"; -1 means that a country has a holistic governance of interoperability activities across all administrative levels (local, regional and national) and sectors.
KPI 41	Interoperability Layers	Interoperability governance	Recommendation 21	Existence of defined processes for the selection and adoption of standards and specifications	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country does not have defined processes for the selection and adoption of standards and specifications or they 'don't know'; -1 means that a country has defined processes for the selection and adoption of standards and specifications.
KPI 42	Interoperability Layers	Interoperability governance	Recommendation 22	Extent to which administrations are managing ICT standards and specifications to ensure interoperability	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-6 discrete scale	-0 means that, in a country, none of the main steps are used by public administration to manage ICT standards and specifications; -6 means that, in a country, all of the main steps are used by public administration to manage ICT standards and specifications.
KPI 43	Interoperability Layers	Interoperability governance	Recommendation 22	Existence of a CAMSS or similar assessment method for standard and specification at Member State level	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country does not use CAMSS or a similar method to assess and select standards and specifications; -1 means that a country uses CAMSS or a similar method to assess and select standards and specifications.
KPI 44	Interoperability Layers	Interoperability governance	Recommendation 23	Use of ICT Catalogues	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-5 discrete scale	-0 means that a country does not consult any ICT catalogue when identifying ICT standards and specifications; -5 means that a country consults the main ICT catalogues when identifying ICT standards and specifications.
KPI 45	Interoperability Layers	Interoperability governance	Recommendation 24	Instance of active participation in standardisation works	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-6 discrete scale	-0 means that, over the last year, a country did not collaborated on any standardisation initiatives at EU level of the main bodies involved in the definition of ICT Standards; -6 means that, over the last year, a country has participated at least at one of the standardisation initiatives at EU level of all of the 6 main bodies involved in the definition of ICT Standards.
KPI 46	Interoperability Layers	Integrated Public Service Governance	Recommendation 25	Extent to which a governance structure for the provision of public services is implemented	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-4 discrete scale	-0 means that, in a country, there is no governance structure; -4 means that, in a country, the governance for the provision of public services has all the main elements.
KPI 47	Interoperability Layers	Integrated Public Service Governance	Recommendation 26	Existence of interoperability agreements through which public administrations cooperate with each-other	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that, in a country, public administrations do not cooperate with each-other through interoperability agreements to provide public services; -1 means that, in a country, public administrations do not cooperate with each-other through interoperability agreements to provide public services.
KPI 48	Interoperability Layers	Legal Interoperability	Recommendation 27	Extent to which ICT is taken into account when preparing new legislation	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-6 discrete scale	-0 means that, in a country, ICT is not taken into account when preparing a proposal for a new legislation or that they 'don't know'; -5 means that, in a country, ICT is fully taken into account when preparing a proposal for a new legislation.
KPI 49	Interoperability Layers	Organisational Interoperability	Recommendation 28	Existence of modelling techniques to document business processes to deliver public services	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country doesn't have standardised modelling techniques to document business processes to deliver public services or that they "don't know"; -1 means that a country has standardised modelling techniques to document business processes to deliver public services.
KPI 50	Interoperability Layers	Organisational Interoperability	Recommendation 29	Extent to which organisational relationships between providers and consumers are formalised	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	1-5 Likert scale	-1 means never; -5 means always.
KPI 12	Interoperability Layers	Semantic Interoperability	Recommendation 30	Existence of policies supporting the reuse of Public Sector Information within public administration, by the private sector (Q1.5)	Secondary	<a href="#">European Open Data portal</a>	0-20 five-point scale	-0 means that a country does not have policies supporting the reuse of Public Sector Information (within public administration, by the private sector); -20 means that a country has policies supporting the reuse of Public Sector Information (within public administration, by the private sector).
KPI 51	Interoperability Layers	Semantic Interoperability	Recommendation 31	Existence of metadata, master data and reference data management policies	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-3 discrete scale	-0 means that a country does not have in place any metadata, master data or reference data management policy; -3 means that a country has in place metadata, master data and reference data management policies.
KPI 52	Interoperability Layers	Semantic Interoperability	Recommendation 31	Existence of agreements on reference data in the form of taxonomies, controlled vocabularies, thesauri, code lists and reusable data structure/models to achieve semantic interoperability	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country is not working or hasn't been working on agreements to achieve semantic interoperability; -1 means that a country is working or has been working on agreements to achieve semantic interoperability.
KPI 53	Interoperability Layers	Semantic Interoperability	Recommendation 32	Existence of sector-specific and/or cross-sectoral communities exist in fields affected by interoperability	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that there is not any sector-specific and/or cross-sectoral community in fields affected by interoperability; -1 means that there are sector-specific and/or cross-sectoral communities in fields affected by interoperability.
KPI 07	Interoperability Layers	Technical Interoperability	Recommendation 33	Promotion of the use of open specifications to public administrations	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that, a country does not promote the use of open specifications to public administrations; -1 means that a country promotes the use of open specifications to public administrations.
KPI 54	Conceptual Model for Integrated Public Services Provision	Conceptual model	Recommendation 34	Extent to which public administrations take into account the conceptual model proposed by the EIF	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-4 discrete scale	-0 means that, in a country, public administrations do not use the conceptual model; -4 means that, in a country, public administrations use the conceptual model to achieve all the main purposes proposed by the EIF.
KPI 55	Conceptual Model for Integrated Public Services Provision	Conceptual model	Recommendation 35	Existence of a common scheme for interconnecting loosely coupled service components and put in place and maintain the necessary infrastructure for establishing and maintaining public services	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country doesn't have a common scheme for interconnecting loosely coupled service components and put in place and maintain the necessary infrastructure for establishing and maintaining public services or that they "don't know"; -1 means that a country has a common scheme for interconnecting loosely coupled service components and put in place and maintain the necessary infrastructure for establishing and maintaining public services.
KPI 56	Conceptual Model for Integrated Public Services Provision	Internal information sources and services	Recommendation 36	Existence of a shared infrastructure of reusable services and information sources that can be used by all public administrations	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country does not have a shared infrastructure of reusable services and information sources that can be used by all public administrations; -1 means that a country has a shared infrastructure of reusable services and information sources that can be used by all public administrations.
KPI 26	Conceptual Model for Integrated Public Services Provision	Base Registries	Recommendation 37	Extent to which the five major Base Registries (Population, Vehicle, Tax, Land, Business) are available for reuse in digital public services	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-5 discrete scale	-0 means that, in a country, multilingualism is not considered for data representation in the Base Registries; -5 means that, in a country, multilingualism is considered for data representation in ALL the Base Registries.
KPI 57	Conceptual Model for Integrated Public Services Provision	Base Registries	Recommendation 37	Extent to which public administrations make authoritative sources of information available to others public administrations	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-5 discrete scale	-0 means that, in a country, none of the base registries is made available to other public organisations for the delivery of public services; -5 means that, in a country, all base registries are made available to other public organisations for the delivery of public services.
KPI 26	Conceptual Model for Integrated Public Services Provision	Base Registries	Recommendation 38	Extent to which the five major Base Registries (Population, Vehicle, Tax, Land, Business) are available for reuse in digital public services	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-5 discrete scale	-0 means that, in a country, multilingualism is not considered for data representation in the Base Registries; -5 means that, in a country, multilingualism is considered for data representation in ALL the Base Registries.
KPI 58	Conceptual Model for Integrated Public Services Provision	Base Registries	Recommendation 38	Existence of agreements on reference data in the form of taxonomies, controlled vocabularies, thesauri, code lists and reusable data structure/models to achieve semantic interoperability of the Base registries	Primary	National Interoperability Framework Observatory (2016.21)	0-5 discrete scale	-0 means that, in a country, none of the base registry includes agreements to achieve semantic interoperability; -5 means that, in a country, all base registries include agreements to achieve semantic interoperability.
KPI 59	Conceptual Model for Integrated Public Services Provision	Base Registries	Recommendation 39	Existence of registry of Base Registries	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that in a country there is not a registry of Base Registries; -1 means that in a country there is a registry of Base Registries.
KPI 51	Conceptual Model for Integrated Public Services Provision	Base Registries	Recommendation 39	Existence of metadata, master data and reference data management policies	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-3 discrete scale	-0 means that a country does not have in place any metadata, master data or reference data management policy; -3 means that a country has in place metadata, master data and reference data management policies.
KPI 60	Conceptual Model for Integrated Public Services Provision	Base Registries	Recommendation 40	Extent to which base registries draw up and implement a data quality assurance plan to ensure the quality of their data	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	1-5 Likert scale	-1 means strongly disagree; -5 means strongly agree.
KPI 61	Conceptual Model for Integrated Public Services Provision	Base Registries	Recommendation 40	Existence of a master data management and Quality Assurance (QA) plans for one or more of the five major Base Registries: Population, Vehicle, Tax, Land, Business	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country has not a master data management and Quality Assurance (QA) plans for one or more of the five major Base Registries: Population, Vehicle, Tax, Land, Business; -1 means that a country has a master data management and Quality Assurance (QA) plans for one or more of the five major Base Registries: Population, Vehicle, Tax, Land, Business.

KPI 62	Conceptual Model for Integrated Public Services Provision	Open Data	Recommendation 41	Extent to which procedures and processes are defined to integrate opening of data in common business processes, working routines, and in the development of new information systems	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-1 dichotomous scale	-0 means that a country does not have you established procedures to integrate the opening of data in its business processes, working routines and development of new information systems; -1 means that a country has established procedures to integrate the opening of data in its business processes, working routines and development of new information systems.
KPI 63	Conceptual Model for Integrated Public Services Provision	Open Data	Recommendation 42	Extent to which each Member State is DCAT-AP compliant (54.3)	Secondary	<a href="#">European Open Data portal</a>	0-210 discrete scale	-0 means that a country is not at all compliant with DCAT-AP to structure metadata on the Member State national portal; -210 means that a country is fully compliant with DCAT-AP to structure metadata on the Member State national portal.
KPI 64	Conceptual Model for Integrated Public Services Provision	Open Data	Recommendation 42	Existence of a national plan to improve the quality of the (meta)data in the coming 12 months	Secondary	<a href="#">European Open Data portal</a>	0-20 two-point scale	-0 means that a country does not plan any activity to improve the quality of the (meta)data in the coming 12 months; -20 means that a country plans activities to improve the quality of the (meta)data in the coming 12 month.
KPI 65	Conceptual Model for Integrated Public Services Provision	Open Data	Recommendation 42	Proportion of the data available in machine readable format (Q4.3)	Secondary	<a href="#">European Open Data portal</a>	0-30 7 points discrete scale	-0 means that the proportion of the data available in machine readable format is ≤10%; -5 means that the proportion of the data available in machine readable format is 10 - 30%; -10 means that the proportion of the data available in machine readable format is 31 - 50%; -15 means that the proportion of the data available in machine readable format is 51 - 70%; -20 means that the proportion of the data available in machine readable format is 71 - 90%; -25 -30 means that the proportion of the data available in machine readable format is ≥ 91%.
KPI 03	Conceptual Model for Integrated Public Services Provision	Open Data	Recommendation 43	Existence of national guidelines on the publication of Public Sector Information (Q1.12)	Secondary	<a href="#">European Open Data portal</a>	0-10 two-point scale	-0 means that a country does not have national guidelines on the publication of Public Sector Information; -10 means that a country has national guidelines on the publication of Public Sector Information.
KPI 12	Conceptual Model for Integrated Public Services Provision	Open Data	Recommendation 43	Existence of policies supporting the reuse of Public Sector Information within public administration, by the private sector (Q1.5)	Secondary	<a href="#">European Open Data portal</a>	0-20 five-point scale	-0 means that a country does not have policies supporting the reuse of Public Sector Information (within public administration, by the private sector); -20 means that a country has policies supporting the reuse of Public Sector Information (within public administration, by the private sector).
KPI 42	Conceptual Model for Integrated Public Services Provision	Catalogues	Recommendation 44	Extent to which administrations are managing ICT standards and specifications to ensure interoperability	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-6 discrete scale	-0 means that, in a country, none of the main steps are used by public administration to manage ICT standards and specifications; -6 means that, in a country, all of the main steps are used by public administration to manage ICT standards and specifications.
KPI 66	Conceptual Model for Integrated Public Services Provision	External information sources and services	Recommendation 45	Extent to which public administrations are using external information sources and services while developing public services	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-8 discrete scale	-0 means that, in a country, public administrations do not use external information sources and services while developing public services; -8 means that, in a country, public administrations use all the 8 main external information sources and services, identified by the EIF, while developing public services.
KPI 67	Conceptual Model for Integrated Public Services Provision	Security and Privacy	Recommendation 46	Application of privacy and security principles	Primary	NIFO Questionnaire, National Interoperability Framework Observatory (2016.21)	0-7 discrete scale	-0 means that, in a country, there are no measures or elements currently in place for security and privacy or that they don't know; -7 means that, in a country, all the main elements for security and privacy are in place.
KPI 68	Conceptual Model for Integrated Public Services Provision	Security and Privacy	Recommendation 47	Number of trust services providers by country	Secondary	<a href="#">Trusted List Browser</a>	{3} 0-N discrete scale	-N is the discrete number of trust services providers

# SCOREBOARD 1 - TWELVE PRINCIPLES

## THEMATIC AREAS

Principle 01	Recommendation 01	KPI 01	Extent to which strategies or frameworks take the EIF into account
Principle 02	Recommendation 02	KPI 02	Open data maturity
		KPI 03	Existence of national guidelines on the publication of Public Sector Information (Q1.12)
		KPI 04	Extent to which the opening of Public Sector Information has been imposed after the transposition of the revised PSI Directive into national law (Q1.4)
		KPI 05	Number of open datasets published by Member States
	Recommendation 03	KPI 06	Active consideration of the use of open source software when developing new IT solutions, account for it in the total cost of ownership of the IT solution
	Recommendation 4	KPI 07	Promotion of the use of open specification to public administrations
Principle 03	Recommendation 05	KPI 08	Extent to which a Member States is meeting the requirements set by the Single Digital Gateway Regulation on the online availability and accessibility of the administrative procedures
Principle 04	Recommendation 06	KPI 09	Extent to which Member States apply the recommended measures for central bodies of the European Sharing and Reuse Framework to check the reuse of existing IT solutions before developing a new one
		KPI 10	Existence of collaborative platforms in each Member State that facilitate the reuse, sharing and development of IT solutions (e.g. open source software, semantic assets)
	Recommendation 07	KPI 11	Existence of an Open Data portal (extent to which data can easily be found at one central place for reuse purposes) (Q3.0)
		KPI 4	Extent to which the opening of Public Sector Information has been imposed after the transposition of the revised PSI Directive into national law (Q1.4)
		KPI 12	Existence of policies supporting the reuse of Public Sector Information within public administration, by the private sector (Q1.5)
		KPI 13	Reuse of Open Data in decision making (Q2.21)
		KPI 14	Instance of national, regional or local events (e.g. hackathons or other Open Data events) held annually to promote Open Data and PSI reuse (organised by public, private or third sector organisations) (Q1.26)
		KPI 15	Existence of monitoring activities to measure the re-use of the own open data of the Member States.
		KPI 16	Existence of specific activities to support for the reuse of Open Data (Q2.6)
		KPI 17	Existence of specific communication activities to promote national Portal or Open Data in general (Q3.48)
		KPI 18	Existence of references of the reuse of Open Data in your National Open Data portal (Q3.11)
Principle 05	Recommendation 08	KPI 19	Extent to which citizens and businesses are free to adopt technologies or IT products that are most appropriate for their needs when accessing or reusing public services
	Recommendation 09	KPI 20	Extent to which data is easily transferable between systems and applications
Principle 06	Recommendation 10	KPI 21	Internet use - Interaction with public authorities
		KPI 22	Digital Public Services Dimension comprising of eGovernment (DESI_5_DPS)
		KPI 23	Mobile Friendliness
	Recommendation 11	KPI 24	Existence of a single points of contacts in the areas of information relevant for citizens and businesses
	Recommendation 12	KPI 25	Existence of a customer-centric approach to design and deliver public services used by public administrations
	Recommendation 13	KPI 26	Extent to which the five major Base Registries (Population, Vehicle, Tax, Land, Business) are available for reuse in digital public services
		KPI 27	Usage of authentic sources
Principle 07	Recommendation 14	KPI 28	Compliance with the European accessibility standards of the Directive on the accessibility of the websites and mobile applications of public - sector bodies
Principle 08	Recommendation 15	KPI 29	Level of security and privacy defined for public authorities
Principle 09	Recommendation 16	KPI 30	Extent to which users of each of the 21 proposed procedures across the 7 life events of the Single Digital Gateway initiative are able to access instructions for completing the procedure in an official EU language broadly understood by the largest possible number of cross-border users
		KPI 31	Cross-border Mobility for life event 'Regular business operations'
		KPI 32	Cross-border Mobility for life event 'General administration: moving'
		KPI 33	Total number of language resources in different Member States
Principle 10	Recommendation 17	KPI 34	Online Availability - User Centricity
		KPI 35	User Centricity for citizen and business life events
		KPI 36	Online Availability - Citizen cross border mobility
		KPI 37	Online Availability - Business cross border mobility
Principle 11	Recommendation 18	KPI 38	Existence of long-term preservation policy for information owned and management by public administrations
Principle 12	Recommendation 19	KPI 39	Extent to which public administrations evaluate the efficiency and effectiveness of interoperability solutions

## SCOREBOARD 2 - INTEROPERABILITY LAYERS

### THAMTIC AREAS

THAMTIC AREAS	Interoperability governance	Recommendation 20	KPI 40	Existence of holistic governance of interoperability activities across all administrative levels (local, regional and national) and sectors
		Recommendation 21	KPI 41	Existence of defined processes for the selection and adoption of standards and specifications
		Recommendation 22	KPI 42	Extent to which administrations are managing ICT standards and specifications to ensure interoperability
			KPI 43	Existence of a CAMSS or similar assessment method for standard and specification at Member State level
		Recommendation 23	KPI 44	Use of ICT Catalogues
		Recommendation 24	KPI 45	Instance of participation in standardisation works
	Integrated public service governance	Recommendation 25	KPI 46	Extent to which a governance structure for the provision of public services is implemented
		Recommendation 26	KPI 47	Existence of interoperability agreements through which public administrations cooperate with each-other
	Legal interoperability	Recommendation 27	KPI 48	Extent to which ICT is taken into account when preparing new legislation
	Organisational interoperability	Recommendation 28	KPI 49	Existence of modelling techniques to document business processes to deliver public services
		Recommendation 29	KPI 50	Extent to which organisational relationships between providers and consumers are formalised
	Semantic interoperability	Recommendation 30	KPI 12	Existence of policies supporting the reuse of Public Sector Information within public administration, by the private sector
		Recommendation 31	KPI 51	Existence of metadata, master data and reference data management policies
			KPI 52	Existence of agreements on reference data in the form of taxonomies, controlled vocabularies, thesauri, code lists and reusable data structure/models to achieve semantic interoperability
		Recommendation 32	KPI 53	Existence of sector-specific and/or cross-sectoral communities exist in fields affected by interoperability
	Technical interoperability	Recommendation 33	KPI 07	Promotion of the use of open specifications to public administrations

THEMATIC AREAS	SCOREBOARD 3 - CONCEPTUAL MODEL			
	Conceptual Model	Recommendation 34	KPI 54	Extent to which public administrations take into account the conceptual model proposed by the EIF
		Recommendation 35	KPI 55	Existence of a common scheme for interconnecting loosely coupled service components and put in place and maintain the necessary infrastructure for establishing and maintaining public services
	Internal information sources and services	Recommendation 36	KPI 56	Existence of a shared infrastructure of reusable services and information sources that can be used by all public administrations
	Base Registries	Recommendation 37	KPI 26	Extent to which the five major Base Registries (Population, Vehicle, Tax, Land, Business) are available for reuse in digital public services
			KPI 57	Extent to which public administrations make authoritative sources of information available to others public administrations
		Recommendation 38	KPI 26	Extent to which the five major Base Registries (Population, Vehicle, Tax, Land, Business) are available for reuse in digital public services
			KPI 58	Existence of agreements on reference data in the form of taxonomies, controlled vocabularies, thesauri, code lists and reusable data structure/models to achieve semantic interoperability of the Base registries
		Recommendation 39	KPI 59	Existence of registry of Base Registries
			KPI 51	Existence of metadata, master data and reference data management policies
		Recommendation 40	KPI 60	Extent to which base registries draw up and implement a data quality assurance plan to ensure the quality of their data
			KPI 61	Existence of a master data management and Quality Assurance (QA) plans for one or more of the five major Base Registries: Population, Vehicle, Tax, Land, Business
	Open Data	Recommendation 41	KPI 62	Extent to which procedures and processes are defined to integrate opening of data in common business processes, working routines, and in the development of new information systems
		Recommendation 42	KPI 63	Extent to which each Member State is DCAT-AP compliant (S4.3)
			KPI 64	Existence of a national plan to improve the quality of the (meta)data in the coming 12 months
			KPI 65	Proportion of the data available in machine readable format (Q4.3)
		Recommendation 43	KPI 03	Existence of national guidelines on the publication of Public Sector Information (Q1.12)
	KPI 12		Existence of policies supporting the reuse of Public Sector Information within public administration, by the private sector (Q1.5)	
	Catalogues	Recommendation 44	KPI 42	Extent to which administrations are managing ICT standards and specifications to ensure interoperability
	External information sources and services	Recommendation 45	KPI 66	Extent to which public administrations are using external information sources and services while developing public services
	Security and Privacy	Recommendation 46	KPI 67	Application of privacy and security principles
		Recommendation 47	KPI 68	Number of trust services providers by country

SCOREBOARDS	THEMATIC AREAS	RECOMMENDATIONS	KPIs
12 Principles	Principle 1 - Subsidiarity and Proportionality	R1	1
	Principle 2 - Openness	R2-R3-R4	2-7
	Principle 3 - Transparency	R5	8
	Principle 4 - Reusability	R6-R7	4; 09-18
	Principle 5 - Technological neutrality and data portability	R8-R9	19-20
	Principle 6 - User-centricity	R10-R13	21-27
	Principle 7 - Inclusion and accessibility	R14	28
	Principle 8 - Security and privacy	R15	29
	Principle 9 - Multilingualism	R16	30-33
	Principle 10 - Administrative simplification	R17	34-37
	Principle 11 - Preservation of information	R18	38
	Principle 12 - Assessment of Effectiveness and Efficiency	R19	39
Interoperability Layers	Interoperability governance	R20-R24	40-45
	Integrated Public Service Governance	R25-R26	46-47
	Legal Interoperability	R27	48
	Organisational Interoperability	R28-R29	49-50
	Semantic Interoperability	R30-R32	12; 51-53
	Technical Interoperability	R33	7
Conceptual Model for Integrated Public Services Provision	General	R34-R35	54-55
	Internal information sources and services	R36	56
	Basic Registries	R37-R40	26; 51; 57-61
	Open Data	R41-R43	3; 12; 62-65
	Catalogues	R44	42
	External information sources and services	R45	66
	Security and Privacy	R46-R47	67-68