NATIONAL INTEROPERABILITY FRAMEWORK OBSERVATORY

Analytical Model
LUXEMBOURG

The content of this Analytical Model reflects the status as collected in 2016.

DIGIT

Directorate-General for Informatics

ISA² Programme

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ISA²

Analysis of the NIFs

EIF Element - Reference - Category *See reference: the European Interoperability Framework_v2 See definitions listed in the ISA EIF brochure*	Measurement	NIF element present - Reference - (Text in English)	NIF-EIF alignment scoring 2: fully 1: partially 0: not aligned	Large scale implementation *[describe if and how implementation of the element is a common practice]*	Only implementation examples *[describe an implementation example specific to each element]*	Implementation scoring 2: Common practice 1: some examples 0: not observed	NIF monitoring	Monitoring scoring 2: Monitored 1: Partially monitored 0: not observed
			NIF-EIF Alignment		**NIF implementation**		**NIF monitoring**	
Subsidiarity and proportionality Ref: EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'subsidiarity and proportionality' principle?	Like already mentioned in different meetings and contexts, the subsidiarity and proportionality principle doesn't make any sense at national level and is anyway not an interoperability principle but a political principle meant to limit the powers of the EU Commission and of the EU level in regard to the powers of national, regional or local government.	0	N/A	N/A	0	N/A	0
User-centricity EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'user-centricity' principle?	The applied norm is fully oriented toward user needs (User centered design, ISO 13407, applied in the RENOW standards for web standardisation) and the usability and accessibility concepts in order to guarantee an optimal quality level from the user point of view.	2	This principle is applied in a systematic manner with the adoption of the "Charte de normalisation de la présence sur Internet de l'État" in May 2002 and has been even more taken into consideration since the publication of Renow (Référentiel de normalisation web des sites gouvernementaux luxembourgeois; renow.lu), the successor of the Charte in October 2007. Nearly all of the Luxembourg official websites follow this principle (ex: gouvernement.lu, luxembourg.lu, statistiques.lu, justice.lu...)	Plenty of examples can be found on the website www.etat.lu. All websites displaying the "renow"-logo at the bottom left of each webpage have been designed and inplemented in taking into consideration the User centered design principles defined in the context of Renow. More information about Renow can be found on the website renow.public.lu .	2	*User-centricity is a mandatory principle for which control is embedded into project processes & quality assurance processes. It is tested before the go-live of the applications and websites.*	2
Inclusion and accessibility EIF, Chapter 2, Underlying principles Recommendation 2 Category: Principles	Does the NIF contain the 'inclusion and accessibility' principle?	The applied norm intends to guarantee accessibility of every websites and applications toward every users and to offer personnalised and user centered services.	2	This principle is applied in a systematic manner with the adoption of the "Charte de normalisation de la présence sur Internet de l'État" in May 2002 and has been even more taken into consideration since the publication of Renow (Référentiel de normalisation web des sites gouvernementaux luxembourgeois; renow.lu), the successor of the Charte in October 2007. More than 80% of the Luxenbourg official websites follow this principle (ex: gouvernement.lu, luxembourg.lu, statistiques.lu, justice.lu...)	Plenty of examples can be found on the website www.etat.lu. All websites displaying the "renow"-logo at the bottom left of each webpagehave been designed and inplemented in taking into consideration the Web accessibility principles defined in the context of Renow. More information about Renow can be found on the website renow.public.lu .	2	Web accessibility is a mandatory principle for which control is embedded into project processes & quality assurance processes. It is tested before the go-live of the applications and websites.	2
Security and privacy EIF, Chapter 2, Underlying principles Recommendation 3 Category: Principles	Does the NIF contain the 'Security and privacy' principle?	CTIE intends to provide a secured informatic environment, applied according to CTIE security policy. A dedicated division works exclusively on this topic in the CTIE (Center for Information Technology of the State)	2	In the field of security, CTIE uses learly defined standards and guidelines (Seca) which are systematically monitored in the context of the projects. Luxtrust.lu is an authentication service developed by a private company owned by the Government and the main banks (luxtrust.lu) and used as the highly secure PKI enabled authentication and eSignature service by nearly all the official websites/applications and by the private sector (mainly the banks for online banking). Multiple application/websites are implemented with specific focus on security and privacy principles: cases.lu, circl.lu, cert.lu, govcert.lu, cnpd.lu. All ministries/administrations are working in a secured network (called RACINE) where the infrastructure, the solutions and the servers are highly protected from the outside world on the on side and from in-house threats on the other side via a high number of different firewalls and a lot of different security measures.	luxtrust.lu govcert.lu	2	Secuirty is a mandatory principle for which control is embedded into project processes, quality assurance processes and product selection procedures. It is tested before the go-live of the applications and websites. CTIE also executes specific secuirty tests (penetration testing, friendly hacking) on existing applications/websites.	2
Multilingualism EIF, Chapter 2, Underlying principles Recommendation 4 Category: Principles	Does the NIF contain the 'Multilingualism' principle?	Luxembourg is a multilingual country (Luxembourgers usually speak at least 3 and very often 4 or 5 different languages). Multilingualism is where necessary and as far as possible taken into account in the context of the definition of an information system and of the technical architectures. This decision is taken according to criteria such as the volume of the target users, the content to be communciated, the implementation costs...	2	- guichet.lu, the one stop shop for nearly all public online services is in French, English and German. - Luxembourg.lu is also in French, English and German - www.innovation.public.lu is in French and English - culture.lu is in in French, English and German - www.visitluxembourg.com covers eight languages Etc.	Multiple applications/ websites are multilingual: guichet.lu, luxembourg.lu, statistiques.lu, culture.lu, visitluxembourg.com, ...	2	*Is there a monitoring mechanism defined/implemented by the administration? It is easy to see and therefore to monitor if a website is accessible in more than 1 language. GUIs of IT systems are made systematically available in more than 1 language if this makes sense for the users of these systems.*	0
Administrative simplification EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'Administrative simplification' principle?	Administrative simplification is fully part of Luxembourg IT strategy with the aim of centralising services through transversal approaches: centralised web portals, business process management/reengineering approaches (ProMeta) ...	2	More than 260 administrative simplification initiatives have been launched since 2009 (http://www.guichet.public.lu/citoyens/fr/actualites/2013/10/04-simplification-admin/index.html) A specific department of the Ministry of Civil Service and Administrative Reform is in charge of administrative modernisation and simplification: www.fonction-publique.public.lu/fr/modernisation-etat	The website www.vosidees.lu has been launched to get citizens' and enterprises' ideas about the best measures in the field of administrative simplification.	2	A specific department of the Ministry of Civil Service and Administrative Reform is in charge of administrative modernisation and simplification (www.fonction-publique.public.lu/fr/modernisation-etat; www.vosidees.lu) is systematically defining and adapting the list of administrative simplification measures and is systematically monitoring these.	2

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NIF-EIF Alignment				**NIF implementation**			**NIF monitoring**	
Transparency EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'Transparency' principle?	Luxembourg intends to make its administrative processes more transparent by: - developing an internet presence to disseminate all relevant information; - obtaining a greater understanding and transparency of administrative processes, administrative treatments and the information systems supporting their treatment and implementation; - contributing to greater transparency of the structures in the interest of the citizens who will be faced with a more transparent and less complex Internet landscape.	2	Hundreds of websites or portals have been created, hundreds of administrative procedures have been made available online, etc. A few examples: gouvernement.lu, guichet.lu, luxembourg.lu, sante.lu, legilux.lu, statistiques.lu, marches.public.lu, etc. A more or less comprehensive list can be found under etat.lu. Most of this information was not available before or would not have been published in an accessible and transparent manner if web publishing and eGovernment would not exist. No doubt therefore that transparency has increased in a staggering manner in the last 2 decades.	etat.lu: List of portals and websites	2	According to the project management methodology (Quapital - initiation and closing project phases) and (opt.) to Renow.lu, assessment and monitoring of this principle is performed.	1
Preservation of information EIF, Chapter 2, Underlying principles, Recommendation 5 Category: Principles	Does the NIF contain the 'Preservation of information' principle?	The IT master plan defines a framework for the exchange and archiving of electronic documents, with the implementation track for a legal archiving infrastructure of the official state information. The law on preservation and electronic archiving has been adopted in July 2015 and creates, among others, a legal framework for archiving services: Loi du 25 juillet 2015 relative à l'archivage électronique et portant modification: 1. de l'article 1334 du Code civil; 2. de l'article 16 du Code de commerce; 3. de la loi modifiée du 5 avril 1993 relative au secteur financier & Règlement grand-ducal du 25 juillet 2015 portant exécution de l'article 4, paragraphe 1er de la loi du 25 juillet 2015 relative à l'archivage électronique Law: http://www.legilux.public.lu/leg/a/archives/2015/0150/2015A3058A.html?highlight=archivage & Regulation: http://www.legilux.public.lu/leg/a/archives/2015/0150/2015A3062A.html?highlight=archivage & https://portail-qualite.public.lu/fr/confiance-numerique/archivage-electronique/	2	*An electronic document management system has been deployed since 1999 in various public organisations. The govermental portal gouvernement.lu embeds a functionnality which automaticaly archives et makes available all content published since 1999.*		2	ILNAS (Institut Luxembourgeois de la Normalisation, de l'Accréditation, de la Sécurité et qualité des produits et services: https://portail-qualite.public.lu/fr/acteurs/ilnas/index.html) is responsible for the certification, the supervision and the monitoring of the companies offering preservation services compliant with the new legislation. Clear quality and compliance criteria are defined: https://portail-qualite.public.lu/fr/confiance-numerique/archivage-electronique	2
Openness EIF, Chapter 2, Underlying principles, Recommendation 6 Category: Principles	Does the NIF contain the 'Openness' principle?	LU uses since long open standards in many domains : HTML et CSS from W3C, WCAG 2.0, web services based on open standards, ISO 13407, ISO standards controled vocabularies (countries, languages...), etc. Since mid 2015, an "Open data" portal (data.public.lu) is online and publish data in open formats. The resue of this data is allowed.	2	data.public.lu The very large majority of the public websites are based on the most recent W3C (HTML code, CSS, WCAG 2.0, etc.) standards and are highly compliant with these. Open and standardised web services	Since May 2016, Luxembourg hosts the data.public.lu website which is the national Open Data Portal. 120+ datasets are available for the moment, in order to promote the reuse and the development of applications based on these data.	2	*The correct implementation of the W3C standardsis part of the Renow QA procedures. Correct implementation of the web services is systematically checked via QA processes in the context of the development of these web services. The evolution and systematic growth of the number of datasets is under the responsibility of the editors of the portal (i.e. Service information et presse) as is systematically monitored by them.*	2
Reusability EIF, Chapter 2, Underlying principles, Recommendation 7 Category: Principles	Does the NIF contain the 'Reusability' principle?	The IT Master Plan includes different horizontal solutions reused by dozens or even hundreds of organisations and describing the collaboration with other actors than the Government itself (social security & municipalities)	2	Luxembourg public sector has a reusability approach for many of its components which are shared between most of the governmental organisation: - same Web Content Management System infrastructure is used for more than 120 different official websites; - shared web standards, project procedures an quality assurance procedures are used for all the governmental web projects; - common mutualised email infrastructure; - unique ECM (Enterprise Content Management) system, standards and infrastructure for nearly all new ECM projects; - same BPM (Business Process Management) and Project management (Quapital) standards for all IT projects of the Government; - same governmental network (RACINE) used by nearly all governmental organisations; - same eProcurement solution is used by all public organisations; - due to a governmental initiative, the same eID (luxtrust.com) used by the private sector (mainly banks) and the public sector.	As part of the implementation of the Act of 23 May 2016 amending the law of 4 December 2007 about re-use of public sector information, Luxembourg decide in June 2016 to adopt the CIMF (Corporate Information Management Framework). The CIMF is based on a structured, holistic set of principles that encompass the different phases of the information lifecycle. These principles stress the importance of information as a critical public asset and focus on how information should be generated, managed, shared, protected and preserved.	2	Maximising reuse is part of the core policies in the field of IT & eGovernment in LU for years now. Identification of potential reuse of an existing solution (or by slightly completing or amending an existing solution) is systemtically performed the start of a new project. So, through this systematic portfolio management of all projects at CTIE and through the central validation procedure of new projects at CTIE, reusability is monitored.	1
Technological neutrality and adaptability EIF, Chapter 2, Underlying principles, Recommendation 8 Category: Principles	Does the NIF contain the 'Technological neutrality and adaptability' principle?	The Luxembourg strategy intends as much as possible to make its applications and services available for end users without any technological constraint. It is mainly a logical consequence of the need for accessibility (access for all) and of the application of a user centered design. It is necessary to be as far as possible technologically neutral in order to be really accessible and usable. We also try to avoid as much as possible vendor lock-in: Technological neutrality is also a good way to avoid such a lock-in Communication between different systems is done with open web services.	1	Renow.lu principle of non technological constraint is applied, which imposes websites to be based on commonly accepted and open standards (ex: W3C). As much as possible, any technical solution imposing the installation of a software at the user side is forbidden.W3C standards, Open webs services, standardised and open communication between systems are also widely applied		2	Monitoring takes place through the defined Renow QA procedures, through development QA procedures, through the project management and portfolio management procedures.	2
Effectiveness and efficiency EIF, Chapter 2, Underlying principles Category: Principles	Does the NIF contain the 'Effectiveness and efficiency' principle?	Effectiveness and efficiency are part of the strategic objectives of eGovernment since the beginning (around the year 2000). Administrative reform & simplification as well as common standards, a common project and portfolio management methodology (Quapital) and BPM (PROMETA) contribute to achieve this aim.	2	Improvement of the effectiveness and efficiency of public service has been reached by implementing transactional online services, the "Guichet.lu" (personal space on official web portal) and by applying common norms and methodologies (quapital.lu; renow.lu; BPM - Prometa...) The activities already mentioned in the field of administrative simplification and modernisation also contribute to enhance the effectiveness and efficiency.	Prometa (BPM & BPR methodology); Implementation of the Once only principle (OOP) on myguichet.lu and in the context, among others, of the register of physical persons: www.eu2015lu.eu/fr/agenda/2015/12/01-02-conf-egovernment-ctie-presentations/day2/05_Gilles_Feith.pptx Common standardised project and portfolio management methodology: Quapital-Hermes	2	Efficiency & effectiveness is monitored through the Prometa methodology in the context of projects and via the administrative burden reduction approach implementing more and more the OOP and therefore not asking anymore the user to give the same information twice.	1

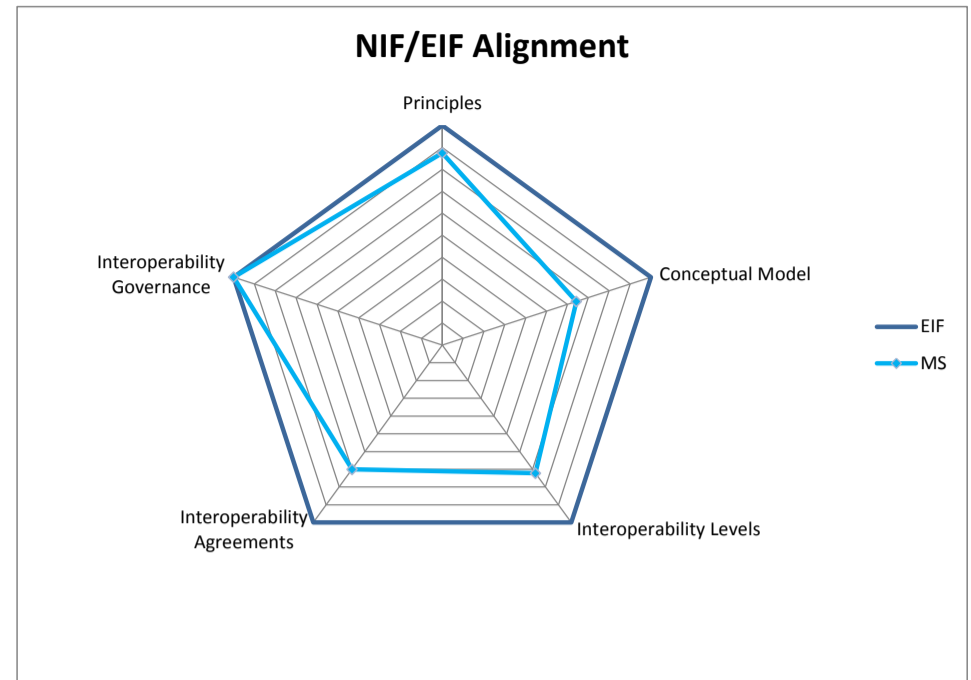| EIF Element - Reference - Category	Measurement	NIF element present - Reference - (Text in English)	NIF-EIF alignment scoring 2: fully 1: partially 0: not aligned	Large scale implementation [describe if and how implementation of the element is a common practice]	Only implementation examples [describe an implementation example specific to each element]	Implementation scoring 2: Common practice 1: some examples 0: not observed	NIF monitoring	Monitoring scoring 2: Monitored 1: Partially monitored 0: not observed
NIF-EIF Alignment				**NIF implementation**			**NIF monitoring**	
Conceptual model EIF, Chapter 3 Category: Conceptual model	Does the NIF contain a conceptual model?	Different models exist in different contexts: Common Java framework, Architecture for the MyGuichet infrastructure, etc. The important criteria is that these models are able to communicate and to exchange data based on standards and common communication protocols. Information systems don't have necessarily to be build according to one common model in order to assure interoperability.	1		Common standardised Java framework; MyGuichet architecture and standards for online services	1	*The Java framwork as well as the standards and the architecture of the MyGuichet framework are mandatory and are therefore controlled and monitored through QA procedures in the context of the development of new solutions.*	2
Public administrations should develop a component-based service model, allowing the establishment of (European) public services by reusing, as much as possible, existing service components. EIF, Recommendation 9 Category: Conceptual model	Is the conceptual model a component-based service model? (e.g. SOA)	The existing frameworks (Java framework, MyGuichet, Renow standards and WCMS, etc.) try to reuse as much as possible existing services and solutions.	1	Systematic reuse of modules or elements developed in the context of MyGuichet, Renow, WCMS, Web services, Java framework, ECM, etc. Existence of a lot of shared services for years now: WCMS, ECM, SAP, RACINE network, Email infrastructure, MyGuichet, etc.	[describe project here]	2	According to the project management methodology (Quapital - initiation and closing project phases) and (opt.) to Renow.lu, assessment and monitoring of this principle is performed.	1
Public administrations should agree on a common scheme to interconnect loosely coupled service components and put in place the necessary infrastructure when establishing (European) public services. EIF, Recommendation 10 Category: Conceptual model	Does the NIF encourage the use of common schemes to interconnect loosely coupled service components?	Standardised open web services, Java framwork, MyGuichet architecture and framework, ...	1	Standardised open web services, Java framwork, MyGuichet architecture and framework, ...	[describe project here]	2	According to the project management methodology (Quapital - initiation and closing project phases) and (opt.) to Renow.lu, assessment and monitoring of this principle is performed.	1
Interconnection of service components. EIF, Recommendation 10 Category: Conceptual model	Does the NIF encourage to put in place the infrastructure to interconnect loosely coupled service components?	Standardised open web services, Java framwork, MyGuichet architecture and framework, ...	1	*Standardised open web services, Java framwork, MyGuichet architecture and framework, ...*	[describe project here]	2	According to the project management methodology (Quapital - initiation and closing project phases) and (opt.) to Renow.lu, assessment and monitoring of this principle is performed.	1
Public administrations should make their authentic sources of information available to others while implementing access and control mechanisms to ensure security and privacy in accordance with the relevant legislation. EIF, Recommendation 11 Category: Conceptual model	Does the NIF encourage to make the authentic sources of information available to others?	Authentic sources like the registry data and VAT data are accessible to others, in fact to all organisations that have a need and the legal right to access these data. A specific law (Loi du 19 juin 2013 relative à l'identification des personnes physiques, au registre national des personnes physiques, à la carte d'identité, aux registres communaux des personnes physiques [...]) introducing the Once Only Principle (OOP) for the Register of physical persons has been adopted in . Very high legal, organisational and technical security and privacy rules have been implemented in this context.	2		*MyGuichet; Loi du 19 juin 2013 relative à l'identification des personnes physiques, au registre national des personnes physiques, à la carte d'identité, aux registres communaux des personnes physiques [...]: http://www.legilux.public.lu/leg/a/archives/2013/0107/a107.pdf ; More detail under: www.eu2015lu.eu/fr/agenda/2015/12/01-02-conf-egovernment-ctie/presentations/day2/05_Gilles_Feith.pptx*	1	According to the project management methodology (Quapital - initiation and closing project phases) and (opt.) to Renow.lu, assessment and monitoring of this principle is performed.	2
Access control EIF, Recommendation 11 Category: Conceptual model	Does the NIF encourage access and control mechanisms to ensure compliance to security and privacy legislation?	Privacy & security is one of the most important objectives of the CTIE and a whole department (DSA) is only in charge of defining security measures, implementing them, maintaining and supporting the security infrastructure, making the necessary QA in the context of projects and developments, etc. It is self-evident that access controls and the highest security procedures are applied everywhere to guarantee compliance to the security & privacy legislation. Laws and legislative norms have always to comply with and the necessary measures have to be implemented to ensure such a compliance.	2	*Access controls and the highest security procedures are applied everywhere to guarantee compliance to the security & privacy legislation*	MyGuichet; IAM (https://iam.cie.etat.lu); LuxTrust, RACINE; etc.	2	*A wole department (DSA) is only in charge of defining security measures, implementing them, maintaining and supporting the security infrastructure, making the necessary QA in the context of projects and developments*	2
Public administrations, when working to establish (European) public services, should develop interfaces to authentic sources and align them at semantic and technical level. EIF, Recommendation 12 Category: Conceptual model	Does the NIF encourage the development of interfaces to authentic sources that are aligned at semantic and technical level?	The web services used to access the authentic sources are always aligned at technical level as everybody who accesses these authentic sources has to comply to the same rules. Semantic alignement is achieved via matching of the metadata in the context of the specific project. Trying to define the same semantic metadata model for all existing databases seems not to be very realistic as most of the systems are legacy systems that cannot be changed in a simple way from one day to another. It is also most of the time not necessary to have a single semantic metadata model as it is sufficient to have a correct semantic matching between the metadata and not necessary to name the metadata in an identical manner in the different databases.	1		*MyGuichet It is also most of the time not necessary to have a single semantic metadata model as it is sufficient to have a correct semantic matching between the metadata and not necessary to name the metadata in an identical manner in the different databases.*	1	According to the project management methodology (Quapital - initiation and closing project phases) and (opt.) to Renow.lu, assessment and monitoring of this principle is performed.	1
Interoperability levels EIF, Chapter 4 Category: Interoperability levels	Does the NIF describe the four levels of interoperability?	In practice the projects deal with the 4 different IO levels and find solutions where necessary for the 4 levels. Not always all levels have really to be taken into account. Often it is not necessary to change a law in order to be able to interconnect or to create a new online service. If necessary, laws are amended. It is in general more or less impossible to define in advance, before knowing the needs of a specific project, a law that would solve all possible IO problems in the future.	1		*Law on the register of physical persons; MyGuichet; OOP*	1	*Done via standardisation, QA measures & the necessary legislative and organisational amendments in the context of the projects and developments.*	2
Legal interoperability: Public administrations should carefully consider all relevant legislation relating to data exchange, including data protection legislation, when seeking to establish a European public service. EIF, Chapter 4 Recommendation 14 Category: Interoperability levels, legal artefacts	Does the NIF impose to consider all relevant legislation related to data exchange?	Each project has to check its legal context and to translate the legislation into code or, if considered as more useful, helpful or as necessary, to take care that the legislation is amended where necessary and possible.	2		*Law on the register of physical persons; MyGuichet; OOP*	1	*Done via Project management procedures, QA measures & the necessary legislative and organisational amendments in the context of the projects and developments.*	2
Organisational interoperability - business process alignment. Public administrations should document their business processes and agree on how these processes will interact to deliver a (European) public service. EIF, Chapter 4 Recommendation 15 Category: Interoperability levels, organisational artefacts	Does the NIF describe that the business processes are documented in an agreed way in order for other administrations to understand the overall business process?	Business processes related to CTIE ongoig projects are documented using a dedicated modelling methodology and notation (PROMETA). It allows multi-level and top-down description of business activities and make possible the reconciliation of processes performed by various public administrations.	2	PROMETA, the BPM & BPR reference framework of CTIE, is systematically proposed and very often implemented in projects under CTIE responsibility.	[describe project here]	2	*Done via Project management procedures, QA measures & the help of the Prometa experts in the context of the projects and developments.*	2
Inter-governmental coordination. EIF, Chapter 4 Recommendation 15 Category: Interoperability levels, organisational artefacts	Does the NIF encourage to agree on how these processes will interact among the different levels of public administrations?	Interaction with registers or databases offering authentic sources is defined most of the time a priori via specific laws, via organisational responsibilities defined most of the time in the legislative texts and via technical standards.	1		*Law on the register of physical persons; MyGuichet; OOP*	2	*Done via Project management procedures & QA measures in the context of the projects and developments.*	2

Analysis of the NIFs

See Alignment Examples in NIFO toolbox

See implementation and monitoring examples in NIFO Toolbox

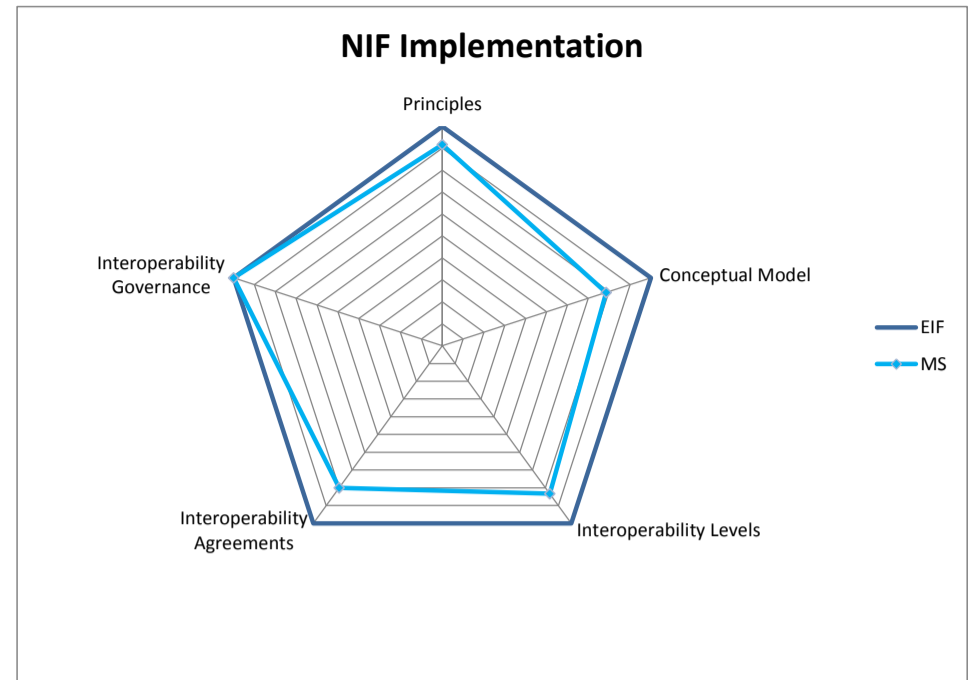| EIF Element - Reference - Category	Measurement	NIF element present - Reference - (Text in English)	NIF-EIF alignment scoring 2: fully 1: partially 0: not aligned	Large scale implementation [describe if and how implementation of the element is a common practice]	Only implementation examples [describe an implementation example specific to each element]	Implementation scoring 2: Common practice 1: some examples 0: not observed	NIF monitoring	Monitoring scoring 2: Monitored 1: Partially monitored 0: not observed
Organisational interoperability - organisational relationships. Public administrations should clarify their organisational relationships as part of the establishment of a (European) public service. EIF, Chapter 4 Recommendation 16 Category: Interoperability levels, organisational artefacts.	Does the NIF encourage public administrations to clarify their organisational relationships as part of the establishment of a (European) public service?	Definition of organisational relationhips is part of a professional project management activity and is covered by the standardised project management methodology Quapital-Hermes used for IT projects by CTIE and by most of the other governmental organisations.	2	Quapital-Hermes PM methodology	[describe project here]	2	Project management principles of Quapital-Hermes and the QA and control procedures defined in this context.	2
Organisational interoperability - change management. Public administrations working together to provide (European) public services should agree on change management processes to ensure continuous service delivery. EIF, Chapter 4 Recommendation 17 Category: Interoperability levels, organisational artefacts	Does the NIF encourage public administrations to agree on change management processes to ensure continuous service delivery?	Change management is part of the normal Project management processes through the Quapital-Hermes and the Prometa methodologies, which are both standards of reference.	2	Change management is an integral part of the Quapital-Hermes PM course. Specific change management courses are part of the normal PM courses delivered at the Luxembourg Training Institute for Civil Servants (INAP).	[describe project here]	2	Project management principles of Quapital-Hermes and the QA and control procedures defined in this context.	2
Semantic interoperability. Public administrations, when working together to establish (European) public services, should use a common taxonomy of basic public services. EIF, Chapter 4 Recommendation 13 Category: Interoperability levels, semantic artefacts.	Does the NIF encourage the usage of a common taxonomy of basic public service?	The large majority of the public services are proposed via the one stop portal for public services guichet.lu. This portal is structured in a coherent way and gives access via a common taxonomy to the public services.	1	guichet.lu	[describe project here]	2	All public services published via guichet.lu are automatically classified via the same common taxonomy.	1
Public administrations should support the establishment of sector specific and cross-sectoral communities that aim to facilitate semantic interoperability and should encourage the communities to share results on national and European platforms. EIF, Recommendation 18 Category: Interoperability levels, semantic artefacts	Does the NIF encourage public administrations to support the establishment of sector specific and cross-sectoral communities that aim to facilitate semantic interoperability and that share results on national and European platforms?	As the LU context is a very centralised one (very small country, only 4 to 5 actors covering more than 95 % of the whole landscape), the need of a large number of communities does not exist. Nevertheless communities exist in the context of Renow, Quapital, Prometa, etc. and the CTIE organises different types of meetings to disseminate information, to get feedback and to share results.	1		Renow, Quapital, Prometa networks; eGovernance day of the CTIE; Regular bilateral or multilateral meetings	1	Part of the normal activities of the different CTIE teams.	1
Technical interoperability. Public administrations should agree on the formalised specifications to ensure technical interoperability when establishing European public services. EIF, Recommendation 19 Category: Interoperability levels, technical artefacts.	Does the NIF encourage public administrations to agree on the formalised specification to ensure technical interoperability when establishing European public services.	Nearly all the technical developments are done in a context where the the CTIE has defined in advance the technical specifications and rules to which the developers have to comply. The developers have therefore always to work in a precisely defined context from the beginning on, their specifcations are in general public and are checked by the CTIE experts in the context of QA procedures.	1	Technical standards and frameworks of the CTIE and the QA and controlling procedures linked to these are applied for nearly all the technical developments.	[describe project here]	2	*Monitoring & QA is part of the normal activities of the CTIE teams responsible for supervising the developments.*	2
Public administrations, when establishing (European) public services, should base interoperability agreements on existing formalised specifications, or, if they do not exist, cooperate with communities working in the same areas. EIF, Recommendation 20 Category: Interoperability agreements.	Does the NIF encourage: - Interoperability agreements to be based on existing formalised specifications? Or - if they do not exist, to cooperate with communities working in the same areas.	Nearly all the technical developments are done in a context where the the CTIE has defined in advance the technical specifications and rules to which the developers have to comply. The developers have therefore always to work in a precisely defined context from the beginning on, their specifcations are in general public and are checked by the CTIE experts in the context of QA procedures.	1	Technical standards and frameworks of the CTIE and the QA and controlling procedures linked to these are applied for nearly all the technical developments.	[describe project here]	2	*Monitoring & QA is part of the normal activities of the CTIE teams responsible for supervising the developments.*	2
Public administrations should use a structured, transparent and objective approach to assessing and selecting formalised specifications. EIF, Recommendation 21 Category: Interoperability agreements.	Does the NIF encourage Public administrations to use a structured, transparent and objective approach to assess and select formalised specifications?	New standards are assessed according to their compliance with the EIF principles (ex: openess, non-proprietary, etc) and if they are not in conflict with already referenced standards and frameworks.	1	New standards are assessed according to their compliance with the EIF principles (ex: openess, non-proprietary, etc) and if they are not in conflict with already referenced standards and frameworks.	[describe project here]	1		0
When establishing (European) public services, public administrations should prefer open specifications, taking due account of the coverage of functional needs, maturity and market support. EIF, Recommendation 22 Category: Interoperability agreements.	Does the NIF encourage public administrations to prefer open specifications, taking due account of the coverage of functional needs, maturity and market support?	As far as possible, useful and helpful, open specifications are used. Examples are the W3C standards, open web services, ISO standards, OASIS standards, etc.	1		*Examples are the W3C standards, open web services, ISO standards, OASIS standards, etc.*	1	As we try to reuse as often as possible and try in general to avoid vendor lock-ins as far as possible, PM should work as far as possible in the direction of open specifications.	1
Contribution to the standardisation process Public administrations should lead or actively participate in standardisation work relevant to their needs. EIF, Chapter 5, Recommendation 23 Category: Interoperability agreements.	Does the NIF encourage public administrations to lead or actively participate in standardisation work relevant to their needs?	CTIE and other public adminsitrations have actively lead a lot of standardisation processes in the last 15 years. Renow, Quapital-Hermes, Prometa, ECM, Seca (security standards), Java framwork, standardised web services, LuxTrust PKI, ELI (European Legislation Identifier), guichet.lu, MyGuichet, etc.	2	Renow, Quapital-Hermes, Prometa, ECM, Seca (security standards), Java framwork, standardised web services, LuxTrust PKI, ELI (European Legislation Identifier), guichet.lu, MyGuichet, etc.	[describe project here]	2	Results of our stanadrisation effort exist in most of the important domains.	2
Public administrations, when working together to establish (European) public services, should agree on minimum service requirements for secure data exchange. EIF, Recommendation 13 Category: Interoperability agreements.	Does the NIF encourage public administrations to agree on minimum service requirements for secure data exchange?	Security standards (seca) exist for years now and are defined and updated regularly by CTIE. All IT systems or solutions have to comply to these standards and these rules guarantee a very high level of security. A whole division of the CTIE (DSA) is working only on guaranteeing that the systems and infrastructures comply with the security requirements.	2	IAM; LuxTrust; RACINE; Antivirus; Spamfilters; Proxy; Firewalls; Cryptage des communications; etc.	[describe project here]	2	*Security is systematically monitored and supervised by the DSA Division of the CTIE and by GovCert (http://govcert.lu).*	2
Governance Public administrations should establish a framework for the governance of their interoperability activities across administrative levels. EIF, Recommendation 25 Category: Interoperability Governance	A governance framework exists to control the interoperability activities across administrative levels.	CTIE has among its mission the management and the interoperability of the official business processes, the optimisation of information exchange, the implementation and exploitation of collaborative platforms between citizens, companies and the governemental bodies. CTIE is the main actor responsible for IO and has created governance frameworks for most of the important IO activities: Renow, Quapital-Hermes, Java framework, MyGuichet, etc.	2	Renow, Quapital-Hermes, Prometa, Seca (security standards), Java framework, standardised web services, LuxTrust PKI, guichet.lu, MyGuichet, etc.	[describe project here]	2	*Monitoring of the governance is implemented through the "CTIE - Comité divisionnaire" meeting and the Project Management Office (http://www.fonction-publique.public.lu/fr/structure-organisationnelle/ctie/organisation/pmo/index.html). This allow to check the coherence of ...*	1

NIF-EIF Alignment | NIF implementation | NIF monitoring

Category	EIF	MS
Principles	100%	87,5%
Conceptual Model	100%	64,3%
Interoperability Levels	100%	72,2%
Interoperability Agreements	100%	70,0%
Interoperability Governance	100%	100,0%

Category	EIF Element	Scoring	
		Max	MS
Principles	Subsidiarity and proportionality	2	0
	User-centricity	2	2
	Inclusion and accessibility	2	2
	Security and privacy	2	2
	Multilingualism	2	2
	Administrative simplification	2	2
	Transparency	2	2
	Preservation of information	2	2
	Openness	2	2
	Reusability	2	2
	Technological neutrality and adaptability	2	1
	Effectiveness and efficiency	2	2
	Total	**24**	**21**
Conceptual Model	Does the NIF contain a conceptual model?	2	1
	Is the conceptual model a component-based service model? (e.g. SOA)	2	1
	Does the NIF encourage the use of common schemes to interconnect loosely coupled service components.	2	1
	Does the NIF encourage to put in place the infrastructure to interconnect loosely coupled service components?	2	1
	Does the NIF encourage to make the authentic sources of information available to others?	2	2
	Does the NIF encourage access and control mechanisms to ensure compliance to security and privacy legislation?	2	2
	Does the NIF encourage the development of interfaces to authentic sources that are aligned at semantic and technical level?	2	1
	Total	**14**	**9**
Interoperability Levels	Does the NIF describe the four levels of interoperability?	2	1
	Does the NIF impose to consider all relevant legislation related to data exchange?	2	2
	Does the NIF describe that the business processes are documented in an agreed way in order for other administrations to understand the overall business process?	2	2
	Does the NIF encourage to agree on how these processes will interact among the different levels of public administrations?	2	1
	Does the NIF encourage public administrations to clarify their organisational relationships as part of the establishment of a (European) public service?	2	2
	Does the NIF encourage public administrations to agree on change management processes to ensure continuous service delivery.	2	2
	Does the NIF encourage the usage of a common taxonomy of basic public service?	2	1
	Does the NIF encourage public administrations to support the establishment of sectorspecific and cross-sectoral communities that aim to facilitate semantic interoperability and that share results on national and European platforms.	2	1
	Does the NIF encourage public administrations to agree on the formalised specification to ensure technical interoperability when establishing European public services.	2	1
	Total	**18**	**13**
Interoperability Agreements	Does the NIF encourage: - Interoperability agreements to be based on existing formalised specifications? Or - if they do not exist, to cooperate with communities working in the same areas.	2	1
	Does the NIF encourage Public administrations to use a structured, transparent and objective approach to assess and select formalised specifications?	2	1
	Does the NIF encourage public administrations to prefer open specifications, taking due account of the coverage of functional needs, maturity and market support?	2	1
	Does the NIF encourages public administrations to lead or actively participate in standardisation work relevant to their needs?	2	2
	Does the NIF encourage public administrations to agree on minimum service requirements for secure data exchange?	2	2
	Total	**10**	**7**
Interoperability Governance	A governance framework exists to control the interoperability activities across administrative levels.	2	2
	Total	**2**	**2**

NIF/EIF Alignment

Radar chart with axes: Principles, Conceptual Model, Interoperability Levels, Interoperability Agreements, Interoperability Governance. Legend: EIF, MS.

Category	EIF	MS
Principles	100%	91,7%
Conceptual Model	100%	78,6%
Interoperability Levels	100%	83,3%
Interoperability Agreements	100%	80,0%
Interoperability Governance	100%	100,0%

NIF Implementation

Category	EIF Element	Scoring	
		Max	MS
Principles	Subsidiarity and proportionality	2	0
	User-centricity	2	2
	Inclusion and accessibility	2	2
	Security and privacy	2	2
	Multilingualism	2	2
	Administrative simplification	2	2
	Transparency	2	2
	Preservation of information	2	2
	Openness	2	2
	Reusability	2	2
	Technological neutrality and adaptability	2	2
	Effectiveness and efficiency	2	2
	Total	**24**	**22**
Conceptual Model	Does the NIF contain a conceptual model?	2	1
	Is the conceptual model a component-based service model? (e.g. SOA)	2	2
	Does the NIF encourage the use of common schemes to interconnect loosely coupled service components.	2	2
	Does the NIF encourage to put in place the infrastructure to interconnect loosely coupled service components?	2	2
	Does the NIF encourage to make the authentic sources of information available to others?	2	1
	Does the NIF encourage access and control mechanisms to ensure compliance to security and privacy legislation?	2	2
	Does the NIF encourage the development of interfaces to authentic sources that are aligned at semantic and technical level?	2	1
	Total	**14**	**11**
Interoperability Levels	Does the NIF describe the four levels of interoperability?	2	1
	Does the NIF impose to consider all relevant legislation related to data exchange?	2	1
	Does the NIF describe that the business processes are documented in an agreed way in order for other administrations to understand the overall business process?	2	2
	Does the NIF encourage to agree on how these processes will interact among the different levels of public administrations?	2	2
	Does the NIF encourage public administrations to clarify their organisational relationships as part of the establishment of a (European) public service?	2	2
	Does the NIF encourage public administrations to agree on change management processes to ensure continuous service delivery.	2	2
	Does the NIF encourage the usage of a common taxonomy of basic public service?	2	2
	Does the NIF encourage public administrations to support the establishment of sectorspecific and cross-sectoral communities that aim to facilitate semantic interoperability and that share results on national and European platforms.	2	1
	Does the NIF encourage public administrations to agree on the formalised specification to ensure technical interoperability when establishing European public services.	2	2
	Total	**18**	**15**
Interoperability Agreements	Does the NIF encourage: - Interoperability agreements to be based on existing formalised specifications? Or - if they do not exist, to cooperate with communities working in the same areas.	2	2
	Does the NIF encourage Public administrations to use a structured, transparent and objective approach to assess and select formalised specifications?	2	1
	Does the NIF encourage public administrations to prefer open specifications, taking due account of the coverage of functional needs, maturity and market support?	2	1
	Does the NIF encourages public administrations to lead or actively participate in standardisation work relevant to their needs?	2	2
	Does the NIF encourage public administrations to agree on minimum service requirements for secure data exchange?	2	2
	Total	**10**	**8**
Interoperability Governance	A governance framework exists to control the interoperability activities across administrative levels.	2	2
	Total	**2**	**2**

Category	EIF	MS
Principles	100%	70,8%
Conceptual Model	100%	64,3%
Interoperability Levels	100%	88,9%
Interoperability Agreements	100%	70,0%
Interoperability Governance	100%	50,0%

NIF Monitoring

Category	EIF Element	Scoring	
		Max	MS
Principles	Subsidiarity and proportionality	2	0
	User-centricity	2	2
	Inclusion and accessibility	2	2
	Security and privacy	2	2
	Multilingualism	2	0
	Administrative simplification	2	2
	Transparency	2	1
	Preservation of information	2	2
	Openness	2	2
	Reusability	2	1
	Technological neutrality and adaptability	2	2
	Effectiveness and efficiency	2	1
	Total	**24**	**17**
Conceptual Model	Does the NIF contain a conceptual model?	2	2
	Is the conceptual model a component-based service model? (e.g. SOA)	2	1
	Does the NIF encourage the use of common schemes to interconnect loosely coupled service components.	2	1
	Does the NIF encourage to put in place the infrastructure to interconnect loosely coupled service components?	2	1
	Does the NIF encourage to make the authentic sources of information available to others?	2	1
	Does the NIF encourage access and control mechanisms to ensure compliance to security and privacy legislation?	2	2
	Does the NIF encourage the development of interfaces to authentic sources that are aligned at semantic and technical level?	2	1
	Total	**14**	**9**
Interoperability Levels	Does the NIF describe the four levels of interoperability?	2	2
	Does the NIF impose to consider all relevant legislation related to data exchange?	2	2
	Does the NIF describe that the business processes are documented in an agreed way in order for other administrations to understand the overall business process?	2	2
	Does the NIF encourage to agree on how these processes will interact among the different levels of public administrations?	2	2
	Does the NIF encourage public administrations to clarify their organisational relationships as part of the establishment of a (European) public service?	2	2
	Does the NIF encourage public administrations to agree on change management processes to ensure continuous service delivery.	2	2
	Does the NIF encourage the usage of a common taxonomy of basic public service?	2	1
	Does the NIF encourage public administrations to support the establishment of sectorspecific and cross-sectoral communities that aim to facilitate semantic interoperability and that share results on national and European platforms.	2	1
	Does the NIF encourage public administrations to agree on the formalised specification to ensure technical interoperability when establishing European public services.	2	2
	Total	**18**	**16**
Interoperability Agreements	Does the NIF encourage: - Interoperability agreements to be based on existing formalised specifications? Or - if they do not exist, to cooperate with communities working in the same areas.	2	2
	Does the NIF encourage Public administrations to use a structured, transparent and objective approach to assess and select formalised specifications?	2	0
	Does the NIF encourage public administrations to prefer open specifications, taking due account of the coverage of functional needs, maturity and market support?	2	1
	Does the NIF encourages public administrations to lead or actively participate in standardisation work relevant to their needs?	2	2
	Does the NIF encourage public administrations to agree on minimum service requirements for secure data exchange?	2	2
	Total	**10**	**7**
Interoperability Governance	A governance framework exists to control the interoperability activities across administrative levels.	2	1
	Total	**2**	**1**