



Directorate-General for Informatics

D2 – Interoperability

Good Practices to Foster a Streamlined Regulatory Reporting Process

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This study was carried out by Wavestone for the ISA² programme by:



Authors:

Esther BLEYS

Ghita ENNADIF

Solène VOSSOT

Alessandro ZAMBONI

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Introduction

Streamlining the regulatory reporting process¹ is not an easy task and is hampered by many prevailing challenges, among which the increasing number of reporting requirements, resulting in growing amounts of data to collect, process, and store. In addition, the complexity of technologies and their constant evolution imply the need for expertise and awareness about related risks, such as cyber-attacks. This list of challenges can be daunting when grasping the fact that a significant amount of data collected as part of the regulatory reporting process are not used in the end, for reasons such as a lack of awareness of the existence of this data.

Furthermore, the regulatory reporting process is inherently complex and involves various stakeholders, and therefore requires a careful and organised management. There should be more transparency throughout the entire process as well as enhanced cooperation and communication among the stakeholders involved, at all organisational levels.

Despite these challenges, some stakeholders, such as the European Commission's Directorate Generals (DGs) and Agencies, national competent authorities (NCAs), and businesses, have faced multiple obstacles and found different ways to streamline and facilitate their regulatory reporting process.

As streamlining of the regulatory reporting process is precisely one of its objectives, the [Regulatory Reporting Community of Practice](#)² called for this issue paper to allow all stakeholders involved in regulatory reporting to identify themselves as part of this process, and to provide them with practices to avoid as well as a collection of good practices and steps to follow in order to simplify the regulatory reporting process. In this paper, stakeholders can find out about examples of good practices from European Commission's DGs and agencies, as well as from Member States and private players. Additionally, this paper refers to resources and tools available to support this regulatory reporting process simplification³.

This paper is based on a thorough analysis of documents from the EC and its agencies, consultations with colleagues from several DGs (such as DG TAXUD and DG MOVE) and with relevant actors within the Member States, such as associations, businesses, public administrations, and national authorities. All these actors differ in terms of practices, culture, and technological advancement. It also relies on elements gathered as part of other activities and publications carried out in the frame of the Regulatory Reporting Community of Practice. While many of the examples developed in this paper stem from the

¹ Regulatory reporting is the provision of periodical structured or unstructured data (qualitative or quantitative) from concerned private and public organisations, to competent authorities (at EU or national level) as required by the requirements set in specific EU legislations. It is a process, which entails the following main stages: the setting of regulatory reporting requirements in EU legislation, data acquisition, data processing and data sharing. These stages involve both the European Commission and officers within its Agencies dealing with reported data, as well as the parties which will be submitting data.

² The Regulatory Reporting Community of Practice (CoP) is an initiative internal to the European Commission that brings together policy officers, technical and legal experts from the European Commission and its Agencies to exchange best practices and work together toward a more streamlined regulatory reporting process in the EU.

³ This document captures the best knowledge collected in December 2021. Therefore, its content is subject to evolve and/or be refined

European Commission and agencies, the identified good practices can be used as inspiration for replication by other entities and for all stages of the regulatory reporting process.

The paper includes five sections, the first provides a transversal view of challenges and good practices relevant across the regulatory reporting process, while the following four are each dedicated to one of the main stages of the regulatory reporting process, which are the setting of regulatory reporting requirements in EU legislation, data collection, data processing, and data use and reuse.

Each section contains the following parts:

- **Part 1 describes the challenges** currently faced by the stakeholders and their related needs with regard to the stage of the regulatory reporting process discussed.
- **Part 2 highlights good practices** to follow to ensure the streamlining of the stage discussed. Good practices cover all stages of the regulatory reporting process and in particular organisational⁴, methodological⁵ and legal⁶ aspects. When available, concrete examples of existing good practices within the EC, agencies and/or Member States that have proven to streamline the stage of the regulatory reporting process are presented.
- **Part 3 contains a dedicated toolbox** providing an overview of available material to support the streamlining of the particular stage of the regulatory reporting process. This includes, for instance, the published issue papers/case studies, the relevant IT Tools available in the inventory and the reuse guide subsequently produced.

⁴ Organisational aspects relate to internal organisation and governance processes that could be introduced as best practices to streamline the regulatory reporting process.

⁵ Methodological aspects refer to practices that could be implemented to streamline the regulatory reporting process, such as an increased use of IT tools

⁶ Legal aspects refer to common legal frameworks, policies and strategies, such as the assessment of the impact and feasibility of IT tools use during the policy design.

1. Good practices across the regulatory reporting process

Part 1 - Current challenges and needs transversal to all steps of the regulatory reporting process

The regulatory reporting process includes four main stages:

1. The setting of regulatory reporting requirements in EU legislation;
2. The acquisition of regulatory data;
3. The processing of collected data; and
4. The use, or reuse, of data.

However, each step of the process can be seen as independent, each one relies on and impacts the following stages as well. Therefore, some challenges can be transversal to all the steps making the good practices addressing them applicable at all stages of the process.

The stakeholders involved in the regulatory reporting process are faced with difficulties that impact multiple stages of the regulatory reporting process:

- **Challenge 1 | Increase administrative burden on the reporting entities:** reporting entities often have to report the same type of data to different organisations, although it might be at different frequencies and with slight changes in the format, resulting in an unnecessary administrative burden for the reporting parties and the requesting stakeholders. Additionally, several reporting requirements on similar topics have different deadlines for submission, leading to different data and therefore different results⁷.
- **Challenge 2 | Lack of clarity/harmonisation in the regulatory reporting requirements:** reporting requirements tend to not be sufficiently clear or specific enough in explaining what data content is expected from the reporting entities as well as in which format it is expected to be reported. Due to this lack of clarity, reporting entities send reports containing different types of information, with different levels of granularity and formats leading to burdensome data collection and processing for regulatory entities and limited reusability of data. Additionally, this results in the collection of data of poor quality and in heterogeneous formats, which requires extensive ex post-processing to sanitise the data. This leads to a heightened risk for errors and further hinders the reusability of the data⁸.
- **Challenge 3 | Lack of coordination among regulatory entities:** work is generally carried out in silos within and across regulatory entities, which results in some entities setting requirements and processing data without checking what is already being collected by others, and how it was collected (under with which data sets, periodicity, granularity, format, etc.)⁹.

⁷ From the [issue paper](#) on Regulatory Reporting Principles.

⁸ From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

⁹ From the [issue paper](#) on The Importance of Metadata for Regulatory Reporting.

This leads to different regulatory entities asking for the same, or similar, data to be provided by reporting entities, therefore adding burden on them.

- **Challenge 4 | Lack of awareness of the value of reported data and metadata:** both staff members and senior management are often unaware, or very little, of the potential benefit brought by data collected through regulatory reporting and their associated metadata. The benefits from the data reported through regulatory reporting are not clear, and they often do not know that metadata improves the accessibility and findability of such data, by creating awareness of the existing data, how it is structured, and hence how reusable it is.
- **Challenge 5 | Lack of semantic interoperability:** the use of inconsistent terminology, i.e., the same concept is named differently, in the definition of regulatory reporting requirements and subsequently in the collected and processed data hinders interoperability at the data processing stage and, in so doing, contributes to limited data reusability. Indeed, the use of different terminologies and semantics makes it more difficult to reconcile data between datasets and IT tools used by different bodies thus making the use, and more particularly the reuse, of data challenging. This lack of harmonised vocabulary can be notably attributed to the insufficient documentation and catalogues on key concepts, standards and vocabularies.

Part 2 - Good practices and concrete examples transversal to all steps of the regulatory reporting process

Various good practices could be followed to ensure the streamlining of the overall regulatory reporting process and mitigate the challenges above mentioned. Some good practices are further illustrated by specific concrete examples from the European Commission and Agencies, in particular DG SANTE and EFSA:

- **Good practice 1 | Raise awareness on the importance of reported data and related metadata** among staff members and senior management, through in-house awareness raising campaigns and training sessions. Involving key senior management is essential to ensure human resources are allocated to the data and metadata related tasks, and to guarantee that they become a priority within the regulatory entities' agenda.

This good practice helps mitigate the lack of awareness of the value of reported data and metadata (Challenge 4).

- **Good Practice 2 | Foster closer collaboration and promote coordination between all relevant stakeholders involved in each step of the regulatory reporting process.** Firstly, internal collaboration should be ensured between the legal, IT and policy services, throughout the regulatory reporting life cycle and not only when implementing new legislation, as some changes can be needed in the reporting requirements to facilitate data collection for reporting

entities¹⁰. Additionally, at EU level, such collaboration should also be established between the EC and relevant external stakeholders involved in each step of the regulatory reporting process to ensure a common approach that allows for a joint handling of regulatory data by creating collaborative spaces and fostering information exchange. Such collaboration would foster better semantic interoperability as well as increase the reuse potential of already collected data.

This good practice helps mitigate the lack of clarity/harmonisation in the regulatory reporting requirements (Challenge 2) and of coordination among regulatory entities (Challenge 3).

Good practices at DG TAXUD

Two good practices can be drawn from DG TAXUD's experience. The first one is that DG TAXUD's Unit B.4 on 'Taxation systems & Digital governance' is notably in charge of providing the tools and technologies that are conceptualised by policy units to support Member States as part of their taxation regulatory reporting process, in particular in terms of information exchange.

The cooperation between Unit B.4 and relevant policy units has been formalised through two processes:

- The IT projects pipeline, which aims to identify the mid or long-term policy initiatives (in particular legislations in the making) which may require an IT system; and
- The IT work plan, which aims to identify the immediate, short-term, next year's activities that the IT department will have to undertake.

These two processes ensure that IT teams and policy units are in contact, as soon as possible, to jointly identify and work on initiatives (both long and short-term) that will have IT impacts.

Another good practice is that DG TAXUD provides the means and tools to public administrations to enable them to exchange relevant taxation information between them. However, in most cases, DG TAXUD does not collect nor has access to the reported data (only to some statistics based on it).

- **Good Practice 3 | Establish clear data governance** by defining roles that will ensure that no data-related responsibility falls between the cracks, which will, among many other things, ensure data is maintained and facilitated for reuse. At EU level, you can check the details of each corporate data role's responsibilities in the context of Data governance and data policies at the European Commission [here](#)¹¹.

This good practice helps mitigate the administrative burden on the reporting entities (Challenge 1) and the lack of clarity/harmonisation in the regulatory reporting requirements (Challenge 2).

- **Good Practice 4 | Build a unified ontology within the EC**, which would ensure more consistency in the terms used when designing legislation and setting regulatory requirements, and in turn lead to more harmonised collected data that could be more easily reused. To this

¹⁰ From the [issue paper](#) on the Challenges to the reuse of IT tools supporting regulatory reporting at the European Commission.

¹¹ From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

end, catalogues and documentation on key concepts, vocabularies and standards should be built and made available within the EC. Such ontological documents could first be drafted per DG/Agency with a specific unit in charge of overseeing their creation based on the specificities of each domain. Then, the designated units could coordinate in order to create a unified ontology at EC level. The use of recognised international standards, when possible, such as the XBRL¹², would also enable streamlined creation, collection, validation, exchange, and comparison of reporting information¹³. The links between such standards should be clarified to be able to combine data.

This good practice helps mitigate the lack of semantic interoperability (Challenge 5).

Good practices at DG SANTE

A good practice can be found in one of DG SANTE's projects, developed jointly with DG ECHO (Directorate-General for European Civil Protection and Humanitarian Aid Operations) and Member States, which focuses on streamlining the terminologies and semantics used in different systems to make the matching of data easier across systems, with the project partners share the common terminologies and mechanisms they use to streamline reporting data.

Another example of good practice can be found in how DG SANTE tackled an obstacle to the exchange and reuse of EFSA data. This obstacle was that EFSA classifies the categories of food using its food coding systems (e.g., FoodEx-2), going into greater detail than DG SANTE. To make use of EFSA data, DG SANTE had to create a correlation table to map the data manually and it maintains conversation channels with EFSA to overcome issues related to the different classification categories.

- **Good Practice 5 | Ensure the consultation of all involved stakeholders** prior to the setup of a new regulatory reporting process. Such stakeholders can be found along the process, including within regulatory entities, such as the officers in charge of setting regulatory requirements, collecting data etc. In some cases, for instance in the financial sector, several regulatory entities might be involved in the preparation of a legislation creating new regulatory reporting requirements. Other stakeholders can also be found in the reporting entities as they are the ones that have to provide information. Final users of the collected data, or the IT officers that will have to adapt/create IT systems to the new requirements, should also be consulted. Such a consultation can be held publicly to gather information on the challenges faced by stakeholders in their reporting duties and take these into account in order to tailor and improve the process.

This good practice helps mitigate the lack of coordination among regulatory entities (Challenge 3).

¹² XBRL is an open, international standard for digital business reporting, managed by a global non-profit consortium, XBRL International, and is used in more than 50 countries.

¹³ From the 'Case study analysis of the use of emerging technologies for regulatory reporting', soon to be published on the community [Wiki space](#) and on the [BLSI Joinup page](#).

Good practices at the European Food and Safety Agency (EFSA)

In accordance with its mandate, EFSA often carries out consultation activities and other analysis to identify the needs associated with the submission, collection and analysis of data, stemming from the different regulatory reporting parties (from the actors who consult the data, but also the actors who submit it), in order to improve the quality of their risk assessments. Throughout these activities, EFSA has identified limitations in some of the data sources used to produce the risk assessment reports, which hinder the Member States' ability to compare data with each other.

- **Good practice 6 | Set up a service related to data management and data analytics**, such as the European Commission's Data Advisory Service (DAS)¹⁴. The DAS is the EC contact point for such matters and, following a request, it directs colleagues with data-related needs to the appropriate information and competences to address their request. Such service could be consulted at **any stage of the regulatory reporting process**, for instance, before defining a new regulatory reporting requirement, so as to verify whether a similar requirement already exists and whether the data is already being collected by another service.

This good practice helps mitigate the lack of coordination among regulatory entities (Challenge 3).

Part 3 – Dedicated Toolbox

No specific tool practice was identified.

¹⁴ The Data Advisory Service can be contacted at the following email address: EC-data-advisory@ec.europa.eu

2. Good practices in setting regulatory reporting requirements in EU legislation (Stage 1)

Part 1 – Current challenges and needs when setting regulatory reporting requirements

The setting of regulatory reporting requirement includes the following actions:

- Identifying the purpose for which data is to be collected;
- Identifying the data to be collected (qualitative or quantitative). At this stage, it is important to check whether the needed data is not already available for reuse with the expected timeliness;
- Identifying the IT tools to be used to collect and process data;
- Drafting the regulatory reporting obligations in legislation;
- Preparing implemented and delegated acts on reporting and access to quality data; and
- Preparing the semantic specifications, reporting templates where applicable and guidelines for submitting regulatory reporting data.

This first stage of the regulatory reporting process has a significant impact on all subsequent stages. Therefore, its streamlining would be beneficial to simplify the entire process and foster a higher data quality and reuse.

However, the diverse stakeholders involved in the setting of regulatory reporting requirements at EU level are facing different challenges. Among them, legal, policy and IT officers are faced with several difficulties, notably linked to the lack of collaboration between them:

- **Challenge 6 | Low awareness of the potential of technologies when designing legislation:** while new and more traditional technologies, even simple automation, could be an asset to ease and support regulatory reporting within the EC, they remain under-used in the regulatory reporting domain. This is notably due to the complexity and high pace of technological disruptions brought by some technologies, the required evolution and change in the reporting culture and the difficulties for a timely delivery of training programs for legal and policy officers. Such reuse of technologies and IT tools is also hampered by the poor cooperation between IT, legal and policy officers. There is thus a need to ensure that legal and policy officers are trained to understand new technologies and that they are informed of their evolution to consider them when drafting new legislations. Additionally, when drafting and implementing new legislation, legal and IT officers should collaborate at early stages of setting regulatory reporting requirements in order to facilitate and exploit the potential of technologies, to take into account new legal instruments and to address any potential IT and legal issues¹⁵.

¹⁵ From the [issue paper](#) on the Challenges to the reuse of IT tools supporting regulatory reporting at the European Commission.

- **Challenge 7 | Work in silos leading to a lack of awareness of reporting requirements across EU law:** due to a lack of communication and/or coordination between policy, legal, and IT officers setting regulatory reporting requirements, policy officers are not always aware if specific data has already been reported through other means, which may result in duplication or multiple reporting, as well as in missed opportunities for data reuse. There is also a lack of coordinated infrastructure to allow policy officers to identify cases of duplicated or multiple reporting¹⁶. There is a pressing need for enhanced coordination between the different actors, which would help avoid multiple reporting. In addition, a coordinated infrastructure would be useful to policy officers so that they could retrieve information about what data is already being collected by who.
- **Challenge 8 | Limited alignment of the broader EU policy objectives:** Regulatory reporting requirements set by Policy Officers in legislation are not always fully aligned with the broader EU policy objectives, which results in missed opportunities to gather relevant data or in asking twice for the same information¹⁷. Such a lack of awareness could be explained by the poor communication across DGs and agencies around policy objectives related to other domains, or by the overwhelming amount of information to share to an equally overwhelming number of colleagues. Additionally, awareness is being hindered by the siloed organisation and the fact that some information is only shared on a need-to-know basis due to sensitivity.
- **Challenge 9 | Short-term thinking for long-term data, which results in a limited potential for reuse and incomparability of data:** Officers responsible for setting regulatory reporting requirements may not think about the long-term purpose and timing of the data to be reported, resulting in limited usability of the data collected. This short-term approach also results in uneven formats of the reported data, which implies that data is not comparable or cannot be aggregated because the needs and specifications were not taken into account at the design stage. This can also occur when the legal provisions establishing the reporting requirements are not specific enough, or when different terminologies are used, hence resulting in Member States reporting different types of information, at different levels of granularity and at different frequencies. All these issues result in a non-harmonised reporting and low reuse of existing data¹⁸.

Part 2 – Good practices and concrete examples to streamline the setting of regulatory reporting requirements

Various good practices could be followed to ensure the streamlining of the setting of regulatory reporting requirements and mitigate the challenges above mentioned. Some good practices are further illustrated by specific concrete examples from the European Commission, notably DG FISMA, and a Portuguese public administration:

¹⁶ From the [issue paper](#) on Regulatory Reporting Principles.

¹⁷ *Ibid.*

¹⁸ From the [issue paper](#) on Regulatory Reporting Principles.

- **Good Practice 7 | Assign responsibility to an organisation for keeping track of the latest market developments, new tools, and technologies** in a shared space to mutualise findings. This would be useful to ensure that policy officers are informed of new technologies and tools to be considered when drafting new legislations and reporting obligations¹⁹.

This good practice helps mitigate the low awareness of the potential of technologies when designing legislation (Challenge 6).

- **Good Practice 8 | Ensure a more efficient communication at different governance level** to gather information on the existing requirements in the legislation and the data already collected and therefore available. For several actors, this good practice is considered as key to streamline the definition of regulatory reporting requirements and to avoid multiple reporting. More concretely, while collaboration between DGs is formalised through the interservice consultations (ISCs), unformal internal efforts are required to optimise the communication within a DG to be informed of the data already collected.

This good practice helps limit the work in silos leading to a lack of awareness of reporting requirements across EU law (Challenge 7) and the lack of awareness of the broader EU policy objectives (Challenge 8).

Good practice at the Portuguese Tax Authority (PTA)

At Member State level, the Portuguese Tax and Customs Authority (PTA), has internal rules and procedures implemented for many years, including on internal communication and consultations. For instance, when a new regulatory reporting requirement is discussed at European level, different departments communicate together to foresee the possible impacts of this requirement in terms of implementation, notably the department that will manage and control the information collected. Furthermore, still during this inception phase, the PTA is in close connection with software developers and accountant associations to identify and address their needs as regard to this new requirement.

Good practice at the DG TAXUD

The IT department of DG TAXUD is considerable in size and is responsible for a large portfolio. In consequence, the budget that is allocated to this department is strictly measured and monitored to ensure that it corresponds to future needs. It is therefore difficult, from a budgetary point of view, to add an initiative with a significant IT impact at the last minute. For this reason, DG TAXUD's senior management has insisted for years that as soon as legal initiatives that may have an IT impact start to being discussed, the IT department must be involved.

There is a cultural awareness that they need each other and that they need to communicate from the beginning of the process.

- **Good Practice 9 | Put in place a knowledge base** to centralise information on the data collected through regulatory reporting obligations across units, DGs and agencies within the

¹⁹ From the [issue paper](#) on the Challenges to the reuse of IT tools supporting regulatory reporting at the European Commission.

EC.²⁰ For small organisations, such a document could be set up in a tabular format made available in a shared space, such as a wiki, to be easily update by all relevant stakeholders. This would allow all the actors involved in the process to see what data has been collected so far and therefore help avoiding multiple reporting and duplication of efforts. For bigger-sized organisations, such as the European Commission, tools such as KOEL (see ‘Part 3 – Dedicated Toolbox’ below) and data catalogues could be used to allow higher data discoverability.

This good practice helps limit the work in silos leading to a lack of awareness of reporting requirements across EU law (Challenge 7).

- **Good Practice 10** | Consider conducting a **fitness check on monitoring and reporting requirements** across a given policy area to identify outdated or duplicated requirements and identify the potential for data reuse and better coherence and synergies. This could inform possible targeted amendments of existing legislation²¹.

This good practice helps limit the short-term thinking for long-term data, which results in a poor potential for reuse and incomparability of data (Challenge 9)

- **Good Practice 11** | Draw on the **five regulatory reporting principles**²² when designing regulatory reporting requirements in EU legislation. In concrete terms, when setting regulatory reporting requirements, one should ensure that the resulting requirements and data gathered are:
 - Fit for purpose: regulatory reporting requirements should be well aligned with the needs of broader policy objectives, ensuring that only the necessary data is collected in order to feed the policy cycle.
 - Coherent: policy officers setting up regulatory reporting requirements should aim to ensure the coherence of those requirements with each other and with those already existing in the same or other domains.
 - Clear: the purpose and process of the requirements should be explained and supported by reporting guidelines and templates, where relevant.
 - Technology-driven: officers setting regulatory reporting requirements should collaborate with the IT officers who will be involved in handling reported data at the early stage of requirements setting and rely on IT systems when beneficial.
 - Interoperable: the data being collected follows European or international standards and specifications of data classification and is accompanied by high-quality metadata. The accompanying metadata should be accurate, available, complete, conformant,

²⁰ From the [issue paper](#) on the Challenges to the reuse of IT tools supporting regulatory reporting at the European Commission.

²¹ From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

²² From the [issue paper](#) on Regulatory Reporting Principles.

consistent, credible, processable, relevant and timely. This will enhance data portability and reusability.

This good practice helps limit the short-term thinking for long-term data, which results in a poor potential for reuse and incomparability of data (Challenge 9).

- **Good Practice 12 | Assess the impact and feasibility of integrating emerging technologies within tools** supporting the regulatory reporting processes. Such an assessment should take into account the impact of emerging technologies on the efficiency of the process as well as on the resources needed to develop and deploy IT tools, both in terms of financial costs and human needs. The Tool 28 of the Better Regulation Toolbox²³ can be leveraged to perform digital checks identifying the precise digital aspects or ICT needs of each new initiative²⁴. The use of emerging technologies can considerably streamline the regulatory reporting process by reducing the burden on both reporting and supervisory entities by automating parts of the process. Therefore, the assessment of the impact and feasibility of its integration at early stages of the process would provide flexibility to entice the use of such technologies in all the stages of the regulatory reporting process.

This good practice helps mitigate the low awareness of the potential of technologies when designing legislation (Challenge 6).

Good practices at DG FISMA

DG FISMA strives to enable reporting entities and supervisors to use emerging technologies in reporting. Such objectives are pushed through projects such as the Regulatory Concept Dictionary (RCD), which is a machine learning project that promotes the standardisation of definitions and the efficient and automatic management and detection of reporting obligations in legislation. For the time being, the RCD is merely a prototype. Once fully developed, the system developed under this RCD project would be an IT solution using the power of the Artificial Intelligence for the detection of reporting obligations.

Good practices at DG TAXUD

Within DG TAXUD, all units of Directorate B have to produce monthly and quarterly reports describing the status and progress made in the different activities of each Unit. They started using a dedicated instance of the [CITNet](#) platform to streamline internal reporting. Every project run into DG TAXUD has a standardised page on Confluence, using common indicators. The overall objective is that the monthly reports are semi-automatically generated by the collection of inputs from the different projects. This CITNet platform would lighten the burden of these regular reports, as DG TAXUD officers will only have to provide data on the platform, and then the platform will generate a Word document, the report, that is checked and sent to the director on a monthly/quarterly basis. The platform also ultimately provides a collaborative tool to build the report.

²³ The Better Regulation Toolbox 2021 is available here: https://ec.europa.eu/info/files/better-regulation-toolbox-0_en

²⁴ From the [issue paper](#) on the Challenges to the reuse of IT tools supporting regulatory reporting at the European Commission.

- **Good Practice 13 | Revise existing legislation** in order to streamline regulatory reporting requirements.

This good practice helps limit the short-term thinking for long-term data, which results in a poor potential for reuse and incomparability of data (Challenge 9).



Good practices at the European Commission

A concrete example of legislation meant to streamline regulatory reporting requirements can be found in the Commission’s Action Plan to Streamline Environmental Reporting which consists in a stepwise approach to revise all environmental legislations in order to streamline the reporting requirements and to make sure Member States only report things once. This streamlining is done at both semantic and process levels. Such exercise could be replicated in other domains.

- **Good Practice 14 | Legal clauses should clearly specify the use that can be made of reported data.** Specifically, a legislation text should include the potential cases in which data can be reused by stakeholders, within the caveat of personal data²⁵.

This good practice helps limit the short-term thinking for long-term data, which results in a poor potential for reuse and incomparability of data (Challenge 9).

Part 3 – Dedicated Toolbox

Available materials to support the setting of regulatory reporting requirements	
	<p><i>EC only</i> - The Inventory of IT tools²⁶ which provides a list of 39 available tools that could be used to support and streamline the regulatory reporting process.</p>
	<p><i>EC only</i> - KOEL, Knowledge Online on European Legislation application, created by DG FISMA, which is a web-based application that provides support for the setting of regulatory requirements and gathers information on all the existing regulatory reporting requirements across the financial acquis into a single repository. Its aim is to identify gaps, overlaps and inconsistencies in regulatory requirements and avoid duplication. Its operation, target user group(s) and potential for reuse are further explained in the reuse guide²⁷ of IT tools supporting the Regulatory Reporting process within the EC.</p>

²⁵ From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission

²⁶ The Inventory of IT Tools is available here:

<https://webgate.ec.europa.eu/fpfis/wikis/display/reportingcommunity/IT+Support+for+Regulatory+Reporting>

²⁷ The reuse guide of IT tools is available here:

https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/984678801/SC370_D05.02_Reuse%20Guide_vF.pdf?version=1&modificationDate=1637055870609&api=v2

Available materials to support the setting of regulatory reporting requirements



The revised **Better Regulation Guidelines**²⁸ - setting out the principles that the EC follows when preparing new initiatives and proposals and when managing and evaluating existing legislation - and **Toolbox**²⁹ - providing guidance and good practices to implement the Guidelines, oblige DGs to follow certain rules in terms of regulatory reporting and must be implemented by all DGs and agencies.

²⁸ The Better Regulation Guidelines are available here: https://ec.europa.eu/info/sites/default/files/swd2021_305_en.pdf

²⁹ The Better Regulation Toolbox is available here: https://ec.europa.eu/info/sites/default/files/br_toolbox-nov_2021_en_0.pdf

3. Good practices in the acquisition of data (Stage 2)

Part 1 – Current challenges and needs when collecting data

As part of the regulatory reporting process, the acquisition of data means:

- Helping and guiding concerned stakeholders to submit their data and prepare their reports; and
- Organising the data submission and harvesting by setting up data flows to enable reporting entities to submit their information to supervisors.

Streamlining the collection of data is likely to improve data quality and interoperability, which in turn would facilitate data processing and increase the reuse of the collected data.

However, when collecting data, different stakeholders are facing various challenges, from which specific needs arise. Among these challenges, the following have been identified, on the side of regulatory entities:

- **Challenge 10 | Lack of resources to support reporting entities:** without clear, documented instructions and a mechanism for reporting entities to get additional information on the data they should submit, confusion may emerge when the data collection process begins. Regulatory entities may be overwhelmed by multiple reporting entities asking several questions. Additionally, reporting entities may eventually question the credibility of the data collection initiative and the regulatory entity sponsoring it³⁰.

On the other hand, reporting entities also face several challenges when submitted data:

- **Challenge 11 | Inadequate preparation and lack of testing:** Conscientious preparation is important to establish and carry out best practices with regulatory data collections. Preparation notably includes the use of pilot data collections and testing. Without such steps, reporting entities may lack confidence that the data they send will meet the project requirements³¹.

Part 2 – Good practices and concrete examples to streamline the acquisition of data

To address the above-mentioned challenges, several good practices could be implemented or used as inspiration to ensure the streamlining of the acquisition of data. Some good practices are further illustrated by specific concrete examples from a European Agency, EFSA:

- **Good Practice 15 | Promote collaboration** between actors involved in the collection of data through a suitable ‘forum’ to facilitate exchange of information, coordinate collection

³⁰ OFR (2016) *Developing Best Practices for Regulatory Data Collections*, Viewpoint. Available here: https://www.financialresearch.gov/viewpoint-papers/files/OFRvp-2016-01_Best-Practices-Data-Collection.pdf

³¹ *Ibid.*

processes and access across supervisory authorities, identify commonalities in data models, and foster cooperation on establishing uniform standards, formats, processes, and data flows³².

This good practice helps mitigate the lack of resources to support reporting entities (Challenge 10).

- **Good Practice 16 | Reach out to national authorities to identify ways to minimise (or at least align) fragmented national level reporting and pool resources** in creating data collection, processing and analysis infrastructure^{33 34}.

This good practice helps mitigate the lack of resources to support reporting entities (Challenge 10).

- **Good Practice 17 | Introducing frameworks to automate the data collection process** from the reporting entities to the regulatory entities. This could make the regulatory reporting process more efficient and less expensive. But it would also create the challenge of ensuring data accuracy at all times.

This good practice helps mitigate the lack of resources to support reporting entities (Challenge 10).

- **Good Practice 18 | Provide clear guidelines for reporting entities on how to implement reporting requirements set in specific legislation, including templates if needed.** Providing clear guidance and templates to reporting parties will allow them to save time when implementing reporting requirements and will ensure that they have a good understanding of what is concretely expected from them. Such guidance could be provided through guidelines and templates, for instance. Furthermore, such resources could be prepared by the regulatory entities in consultation with the reporting entities, to ensure that potential difficulties are tackled.

This good practice helps mitigate inadequate preparation and lack of testing (Challenge 11).

- **Good Practice 19 | Provide clear and exhaustive validation rules**, so that reporting entities can format their data in a way that the storing system can store homogeneous quality data. If reporting entities are provided with and follow the rules of data formatting that apply to the storing platform to which reported data will be added, they will be more likely to provide more standardised and reusable data.

This good practice helps mitigate inadequate preparation and lack of testing (Challenge 11).

³² From the 'Case study analysis of the use of emerging technologies for regulatory reporting', soon to be published on the community [Wiki space](#) and on the [BLSI Joinup page](#).



³³ Regulatory Reporting Community of Practice, DG FISMA.E.4 event, December virtual breakfast on Better Legislation for Smoother Implementation, 10/12/2021.

³⁴ From the 'Case study analysis of the use of emerging technologies for regulatory reporting', soon to be published on the community [Wiki space](#) and on the [BLSI Joinup page](#).

Good practices at EFSA (European Food Safety Authority)

The SIGMA Animal Disease Data Model – σ -ADM model at EFSA provides Member States with tools to automatically produce their own draft national reports. This model helps to address the different national approaches in data collection, harmonising dating and reducing the burden of the reporting parties. The data model was built in a way that it asks the needed data to the right stakeholder(s). By doing so, it simplifies and reduce the burden on both sides, for the Member States and EFSA.

Part 3 – Dedicated Toolbox

Available materials to support the acquisition of data	
	<p><i>EC only</i> - The Inventory of IT tools³⁵ which provides a list of 39 available tools that could be used to support the acquisition of the regulatory reporting process.</p>
	<p><i>EC only</i> - Reportnet3 is a centralised e-Reporting platform for reporting environmental and climate data to the EEA. It aims to simplify and streamline the data flow steps across all environmental domains. It provides a framework of data standards, applications and interoperability mechanisms to exchange and share information within and between information systems. Its operation, target user group(s) and potential for reuse are further explained in the reuse guide³⁶ of IT tools supporting the Regulatory Reporting process within the EC.</p>

³⁵ The Inventory of IT Tools is available here: <https://webgate.ec.europa.eu/fpfis/wikis/display/reportingcommunity/IT+Support+for+Regulatory+Reporting>

³⁶ The reuse guide of IT tools is available here: https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/984678801/SC370_D05.02_Reuse%20Guide_vF.pdf?version=1&modificationDate=1637055870609&api=v2

Available materials to support the acquisition of data	
	<p><i>EC only</i> - DECLARE is used by DG ENV to support the reporting obligations and data collection for policies which are out of the scope of the European Environment Agency (EEA) or other DG ENV partners IT solutions. It enables national competent authorities and economic operators to submit required data by the EU Regulation. Its operation, target user group(s) and potential for reuse are further explained in the reuse guide³⁷ of IT tools supporting the Regulatory Reporting process within the EC.</p>
	<p><i>EC only</i> - The EC Grange tool gives an overview of the data provided by all Member States, offers information on existing overlaps in reporting requirements. This tool reduces the burden on the reporting parties, as it offers a clear image of the data that is already been reported and should not be requested a second time by a different party³⁸.</p>
	<p><i>EC only</i> - The TENtec information system³⁹, developed by DG MOVE, uses the Open Method of Coordination (OMC)⁴⁰ to ensure a continuous collection and reporting of up-to-date transport infrastructure data into a central transport information system, i.e. TENtec information system is based on three pillars:</p> <ol style="list-style-type: none"> (1) TENtec OMC (restricted access to EC and MS); (2) TENtec Public Viewer (open to everybody); (3) TENtec Military Mobility Map Viewer.

³⁷ The reuse guide of IT tools is available here:

https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/984678801/SC370_D05.02_Reuse%20Guide_vF.pdf?version=1&modificationDate=1637055870609&api=v2

³⁸ From the 'Case study analysis of the use of emerging technologies for regulatory reporting', soon to be published on the community [Wiki space](#) and on the [BLSI Joinup page](#).

³⁹ More information on the TENtec information system is available here: <https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/tentec.html> and here: http://ec.europa.eu/transport/infrastructure/tentec/tentec_en.htm

⁴⁰ More information on the OMC is available here: <https://www.europarl.europa.eu/EPRS/EPRS-AaG-542142-Open-Method-of-Coordination-FINAL.pdf>

4. Good practices in processing data (Stage 3)

Part 1 – Current challenges and needs when processing data

The processing of data in regulatory reporting consists in:

- Ensuring quality of the reported data by checking that it meets the reporting requirements and transforming it to standardised formats, if needed; and
- Carrying out data processing and analysis.

Data processing plays a crucial role for regulatory institutions in terms of monitoring and decision-making. It requires the translation of reported data into analysis and insights for meaningful decision-making, which in turn needs harmonised and high-quality data.

Yet, as part of the processing of data, different stakeholders are facing various challenges, from which specific needs arise. Among these challenges, the following have been identified:

- **Challenge 13 | Resource-intensive process:** the legal officers who set the regulatory reporting requirements sometimes do not specify the format in which the data should be reported. In the absence of specific provisions with regard to data formats, regulatory data reporting can be submitted in any type of digital formats. The lack of standards for the formats of the data to be reported leads to a low quality of collected data, which in turn creates processing burdens and a lack of trust in the database cumbersome data processing, requiring the matching of information contained in different datasets, additional quality checks and the retention of this information over time⁴¹.

Part 2 – Good practices and concrete examples to streamline the processing of data

To address the above-mentioned challenges, several good practices could be implemented or used as inspiration to ensure the streamlining of the processing of data. Some good practices are further illustrated by specific concrete examples from the European Commission, in particular DG HOME:

- **Good Practice 20 | Using data analytics platforms,** such as Tableau⁴², Power BI⁴³, DORIS⁴⁴ or Qlik⁴⁵, which provide a time-saving solution and effectively incorporate and assess massive data volumes, reducing effort required by resources to create reports and increasing time for

⁴¹ From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

⁴² Tableau is a visual analytics platform that facilitates the exploration and management of data, as well as the discovery and sharing of insights. More information is available here: <https://www.tableau.com/>

⁴³ Power BI is a collection of software services, apps, and connectors that work together to turn your unrelated sources of data into coherent, visually immersive, and interactive insights. More information is available here: <https://powerbi.microsoft.com/en-us/what-is-power-bi/>

⁴⁴ DORIS is a public consultation dashboard conceived and developed by DG CNECT. It speeds up the analysis of large stakeholders' feedbacks and improves the quality of the analysis while minimising the risk of errors. Therefore, it reduces the burden for policy officers. It is available here: <http://s-cnect-dev-web.cnect.cec.eu.int:8080/dorisBoard/>

⁴⁵ The Qlik® View and Qlik® Sense technology is capable of combining data from different sources, organising and displaying the results in an easy-to-use manner.

much-needed analysis. Analytics capabilities across the reporting process to improve quality, promote process efficiency and provide actionable insights for all three lines of defense⁴⁶.

This good practice helps limit the resource-intensiveness of the process (Challenge 13).

- **Good Practice 21 | Leverage the power of emerging technologies**, such as Machine Learning and Artificial Intelligence (AI), to ensure a smoother and automatised processing of data. The considerable amount of data collected by the regulators, could be processed through automatised emerging tools to simplify the process and reduce human burden, as well as limit the risks for human errors on manual and repetitive tasks, and ensure a higher quality of data.

This good practice helps limit the resource-intensiveness of the process (Challenge 13) and mitigate the lack of customisable IT solutions (Challenge 16).

Good practices at DG MOVE - TENtec

TENtec consists of the collection of technical, geographical and financial data, which is then used for policy-making and political decision-making processes related to the Trans-European Transport Network Policy (TEN-T). Efforts are currently ongoing within DG MOVE to facilitate the work by analysing automated data exchange solutions and geographical harmonisation with key stakeholders, in order to increase the data quality. This approach is in line with the [once-only principle](#) to reduce the burden on Member States by asking the same information only once. At the same time, the underlying Geographical Information System (GIS) will be significantly upgraded with the implementation of Linear Referencing (dynamic segmentation), which will allow the timely monitoring of the implementation of the technical and financial capabilities of TEN-T.

Part 3 – Dedicated Toolbox

Available material to support the processing of data



EC only - The **Inventory of IT tools**⁴⁷ which provides a list of 39 available tools that could be used to support and streamline the regulatory reporting process.

⁴⁶ EY (2020) *The future model of data analytics for regulatory reporting: automation in the age of digital transformation*. Available here: https://assets.ey.com/content/dam/ey-sites/ey-com/en_us/topics/financial-services/ey-regulatory-report-data-analytics-whitepaper.pdf?download

⁴⁷ The Inventory of IT Tools is available here: <https://webgate.ec.europa.eu/fpfis/wikis/display/reportingcommunity/IT+Support+for+Regulatory+Reporting>



Available material to support the processing of data	
	<p><i>EC only</i> - Reportnet3 is a centralised e-Reporting platform for reporting environmental and climate data to the EEA. It aims to simplify and streamline the data flow steps across all environmental domains. It provides a framework of data standards, applications and interoperability mechanisms to exchange and share information within and between information systems. Its operation, target user group(s) and potential for reuse are further explained in the reuse guide⁴⁸ of IT tools supporting the Regulatory Reporting process within the EC.</p>
	<p><i>EC only</i> - DECLARE is used by DG ENV to support the reporting obligations and data collection for policies which are out of the scope of the European Environment Agency (EEA) or other DG ENV partners IT solutions. It enables national competent authorities and economic operators to submit required data by the EU legislation. Its operation, target user group(s) and potential for reuse are further explained in the reuse guide⁴⁹ of IT tools supporting the regulatory reporting process within the EC.</p>
	<p><i>EC only</i> - SIGMA EST is used by EFSA (the European Food Safety Authority) and serves as a mapping and translation tool, is a web application that, once configured, can automatically transform the national data (uploaded by the data provider) into a file fully in line with EFSA standards.</p>

⁴⁸ The reuse guide of IT tools is available here:

https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/984678801/SC370_D05.02_Reuse%20Guide_vF.pdf?version=1&modificationDate=1637055870609&api=v2

⁴⁹ The reuse guide of IT tools is available here:

https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/984678801/SC370_D05.02_Reuse%20Guide_vF.pdf?version=1&modificationDate=1637055870609&api=v2

Available material to support the processing of data	
	<p><i>EC only</i> - One of the two main functions of the TENtec information system⁵⁰ is the collection of technical, geographical and financial data. The data is then used for policy-making and political decision-making processes related to the Trans-European Transport Network Policy (TEN-T) and its associated funding programme, the Connecting Europe Facility (CEF).</p>
	<p><i>EC only</i> - The Transaction Network Analysis (TNA) Tool⁵¹ is an automated data mining tool collecting information from the Member States' information systems. It enables Eurofisc to detect rapidly and more efficiently suspicious networks. This diminishes the burden for policy officers and could be considered for implementation in other areas.</p>

⁵⁰ More information on the TENtec information system is available here: <https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/tentec.html> and here: http://ec.europa.eu/transport/infrastructure/tentec/tentec_en.htm

⁵¹ More information on the TNA tool is available here: https://ec.europa.eu/taxation_customs/taxation-1/vat-and-administrative-cooperation_en

5. Good practices in (re)using data

Part 1 – Current challenges and needs when (re)using data

The data use and reuse in regulatory reporting refers to the following actions:

- Identifying at which level of detail the data can be made available, taking into account data privacy requirements and legal obligations;
- Publishing the gathered data, including raw data when possible, and a common set of metadata; and
- Ensure the availability for reuse of the collected data, even once stored or archived.

The reuse of data has several benefits, among which the optimisation of the regulatory reporting process. Indeed, by reusing existing data, regulatory entities can avoid harvesting a relevant amount of data, saving efforts, time and financial resources to all parties involved. It also ensures accountability of institutions and transparency on EU initiatives and helping to explain the progress towards policy goals. Consequently, it helps create acceptance of policy actions⁵².

However, such data (re)use also entails different challenges for the stakeholders concerned, from which specific needs arise. The following challenges to data (re)use have been identified:

- **Challenge 14 | Lack of guidance on data reuse:** there is a lack of guidance on (i) which data should be kept accessible for future reuse; (ii) for how long; (iii) for which purpose (e.g., colleagues' reuse, building of a Commission common knowledge base, scrutiny by the co-legislators); and (iv) the technical solutions to manage such access to the data. If these aspects are not defined when regulatory requirements are set or clarified through the use of guidelines, data reuse becomes complex or unfeasible for DGs and agencies⁵³.
- **Challenge 15 | Lack of specifications leading to incomparability of data:** when the data needs and specifications have not been thoroughly thought of in the design stage, uneven types of information and data formats are provided by the reporting entities to the authorities, and this leads to difficulty in ensuring that the data collected are comparable or can be aggregated. For instance, Member States use their own databases and templates, as well as different formats, when submitting data to DG SANTE⁵⁴. Consequently, data is not comparable⁵⁵.
- **Challenge 16 | Lack of customisable IT solutions:** the IT tools used to support the regulatory reporting process are usually not adaptable and customisable to different databases. The reusability of IT tools is indeed often hampered by technical limitations of

⁵² From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

⁵³ *Ibid.*

⁵⁴ Regulatory Reporting Case Studies DG SANTE, 2020. Available at:

https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/547359771/SC370_D04.03_Case_Study_DG_SANTE_vPUBLICATION.pdf?version=1&modificationDate=1605888649993&api=v2

⁵⁵ From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

legacy systems and infrastructures, such as incompatible technologies, fragmented IT infrastructures and poor documentation. What is needed to foster data reuse are technologies that are reusable and technically compatible across DGs or agencies, such as open data licensing, which allow to connect and link data from heterogeneous data sources⁵⁶.

- **Challenge 17 | Lack of IT skills:** essential competences in the areas of data management and IT solutions are currently lacking within DGs and agencies, which do not offer sufficient training sessions to enhance the digital and data literacy of policymakers. Policy officers need more skills and competencies in managing and using data in order to foster and promote of data (re)use⁵⁷.
- **Challenge 18 | Data sensitivity can be an obstacle to its (re)use:** Concerning data that are considered as sensitive by Member States, such as taxation data, their potential (re)use is often very well prescribed in legislation, meaning that if someone wants to (re)use such data, a legal basis is required to do so.

Part 2 – Good practices and concrete examples to streamline the (re)use of data

To address the above-mentioned challenges, several good practices could be implemented or used as inspiration to ensure the streamlining of the (re)use of data. Some good practices are further illustrated by specific concrete examples from the European Commission, in particular JRC and existing communities, and from a Portuguese public administration:

- **Good Practice 22 | Be aware of the different stakeholders related to data** and how they can support you or share knowledge about data reuse, such as the Secretariat-General corporate governance team, the Data Advisory service, the Information Management Steering Board (IMSB), and the EU Policy Making Hub⁵⁸.

This good practice helps mitigate the lack of guidance on data reuse (Challenge 14).

- **Good Practice 23 | Enhance staff skills and competences on data use,** EC and Agencies' staff needs to develop and apply knowledge and expertise outside their direct area of responsibility, including data management (and data reusability) to best serve the Commission's evolving priorities and address cross-cutting policy challenges. To work in agile teams and in collaborative ways, staff need to be able to use the appropriate tools, to develop their digital skills and have management support⁵⁹.

This good practice helps mitigate the lack of IT skills (Challenge 17).

⁵⁶ From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

Good practices from EC communities

Several communities in the EC are taking initiatives to ensure that EC colleagues have access to new knowledge and skills.

For instance, the Data Advisory Service provides training as well as various [learning material](#) on data-related topics.

Additionally, our Regulatory Reporting Community of Practice also started providing relevant training, among which an introductory training on [metadata](#) in regulatory reporting.

- **Good Practice 24 | Make and maintain metadata precise and available** as it will contribute to the interoperability of collected data, as it ensures consistency and portability, and, as an ultimate goal, its reuse. By using common metadata (with its data sets and models), information is easily shared and cross-checked with different documents formats (e.g., when comparing data extracted from Word documents with data from Excel documents). For this to become a reality, metadata needs to be managed after it has been created. This makes the available data easier to find, and more reliable, hence making it easier to reuse, even when it is no longer active. Moreover, the availability and precision of metadata is an important feature of data assets to facilitate data sharing. Metadata is “data about data”, which can be a description of the data, the definition of its scope, the metrics, and other parameters without which data cannot be filtered or processed. It can be seen as the major identifiers or ‘parameters’ of datasets. To learn more about the metadata itself and why it is essential in general and in particular in regulatory reporting, please check our Issue Paper on “The importance of Metadata”⁶⁰.

This good practice helps mitigate the incomparability of data (Challenge 15).

- **Good Practice 25 | Prioritise the reuse of master data** which represents the actual, critical business objects upon which said transactions are performed, also taking into account the parameters on which data analysis is conducted. By reusing master data that is commonly used across DGs, it ensures the interoperability between systems that deal with data, making it easier to reuse and compare data assets in different DGs. The IMSB will endorse a reference list of Commission master data in the short-term future⁶¹.

This good practice helps mitigate the lack of guidance on data reuse (Challenge 14).

- **Good Practice 26 | Reusing reference data** (where available) to improve findability and interoperability as an important prerequisite and enabler to data sharing, meaning new IT systems developed by and for the Commission should reuse reference data that already exist in the Commission, and in particular those assets that are managed under the reference data management policy. Concretely reusing reference data (controlled vocabularies) helps by providing a complete set of accurate values for each concept represented, e.g., code and description tables (such as non-proprietary international standards, for instance, ISO 3166 for

⁶⁰ From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

⁶¹ *Ibid.*

country codes and country names), that when used across DGs and agencies, improves the reusability and comparability of data, among many other benefits. It is strongly encouraged under a comply-or-explain policy, providing rules for the use of common resources, in order to promote reuse, but also to allow for exceptional cases where such reuse would be impossible, unreasonable or detrimental⁶².

This good practice helps mitigate the lack of guidance on data reuse (Challenge 14).

- **Good Practice 27 | Develop and maintain reference data in line with the Corporate Reference Data Management policy principles.** When it is not possible to reuse reference data, follow the intrinsic and extrinsic principles of the Corporate Reference Data Management policy to develop and maintain the newly created reference data (you can check the principles here) to ensure it is available for reuse by other stakeholders, increasing like this the accessibility and interoperability of the data managed with it⁶³.

This good practice helps mitigate the lack of guidance on data reuse (Challenge 14).

- **Good Practice 28 | Making data easily findable and usable,** notably by keeping the data registry updated. Whenever a new data asset is collected or acquired, list it in your DG registry if available, including its metadata description. Another way is to automate the update and notifications between primary and secondary data sources: data assets have a primary (authentic) source which, when changed or updated, needs to be communicated to known secondary sources, for instance, master data management solutions, and vice versa. Otherwise, the secondary sources of data will become outdated and non-usable, hindering the reuse of data to all dependent parties. Additionally, make contact information available helping providing information of the data contact point, data set publisher and creator. Using DCAT-AP, when possible: it is designed to facilitate interoperability and reuse between data catalogues published on the Web. DCAT enables a publisher to describe datasets and data services in a catalogue using a standard model and vocabulary that facilitates the consumption and aggregation of metadata from multiple catalogues. Finally, disseminating the data in line with the Guidelines for referencing statistical data in Commission publications, and share the data with the EP, the Council, and the EU Open Data Portal⁶⁴.

This good practice helps mitigate the lack of guidance on data reuse (Challenge 14).

Good practices at the JRC

The creation of data contact points network at the JRC has supported the use and reuse of data. This means they are the data people of their unit, making themselves available for data enquires across the JRC. This is a practice that could be replicated across other DGs.

⁶² From the [issue paper](#) on How to facilitate the reuse of data in regulatory reporting at the European Commission.

⁶³ *Ibid.*

⁶⁴ *Ibid.*



- Good Practice 29 | Investigate the development of RegTech⁶⁵ and SupTech⁶⁶ tools.** In the financial domain, RegTech and SupTech tools and applications offer a large set of solutions that can further streamline and automate regulatory reporting activities. While the use of such tools faces different challenges, notably in terms of resources, skills and legal/operational risks as regards data protection, the benefits brought by their use within regulatory reporting could be even more significant, such as gains in terms of efficiency and real-time supervision, and could be used as inspiration in other domains that finance.

This good practice helps mitigate the lack of customisable IT solutions (Challenge 16).

- Good Practice 30 | Amending the legislation** that specifies the potential (re)use cases of data would be the only way to enlarge their (re)use. However, such changes should be done carefully and progressively, especially for data that are considered as sensitive (such as taxation data), and in compliance with related intellectual property rights (IPR) rules.

This good practice helps mitigate the fact that data sensitivity can be an obstacle to its (re)use (Challenge 18).

Part 3 – Dedicated Toolbox

Available material to support the (re)use of data	
	<p>The Open Data Portal⁶⁷ provides access to open data from international, EU, national, regional, local and geo data portals. It collects the metadata of public data made available across Europe. The strategic objective of the portal is to improve accessibility and increase the value of open data.</p>
	<p><i>EC only</i> - The Inventory of IT tools⁶⁸ which provides a list of 39 available tools that could be used and reused to support and streamline the regulatory reporting process.</p>

⁶⁵ RegTech is used in reference to technology deployed by insurers to support their regulatory compliance. Regulatory Technology is a subset of FinTech that focuses on technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities. Source: https://www.a2ii.org/sites/default/files/2019-07/regtech_and_suptech_implications_for_supervisors_consultation_call_report.pdf

⁶⁶ Supervisory Technology (SupTech) is a subset of Financial Technology (FinTech) that uses innovative technology to support supervision. It helps supervisory agencies to digitise reporting and regulatory processes, resulting in more efficient and proactive monitoring of risk and compliance at financial institutions. SupTech refers to technology deployed by regulators to support supervisory activities. Source: https://www.a2ii.org/sites/default/files/2019-07/regtech_and_suptech_implications_for_supervisors_consultation_call_report.pdf

⁶⁷ The Open Data Portal is available here: <https://data.europa.eu/en>

⁶⁸ The Inventory of IT Tools is available here: <https://webgate.ec.europa.eu/fpfis/wikis/display/reportingcommunity/IT+Support+for+Regulatory+Reporting>

Available material to support the (re)use of data	
	<p><i>EC only</i> - The Regulatory Concept Dictionary (RCD) Project, developed by DG FISMA, provides support for a greater standardisation of EU-level supervisory reporting requirements by automatically creating a glossary of concepts defined in all legal texts within the domain of DG FISMA and by setting up a dictionary of reporting obligations contained in these texts. Its operation, target user group(s) and potential for reuse are further explained in the reuse guide⁶⁹ of IT tools supporting the Regulatory Reporting process within the EC.</p>
	<p><i>EC only</i> - Reportnet3 is a centralised e-Reporting platform for reporting environmental and climate data to the EEA. It aims to simplify and streamline the data flow steps across all environmental domains. It provides a framework of data standards, applications and interoperability mechanisms to exchange and share information within and between information systems. Its operation, target user group(s) and potential for reuse are further explained in the reuse guide⁷⁰ of IT tools supporting the Regulatory Reporting process within the EC.</p>
	<p><i>EC only</i> - DECLARE is used by DG ENV to support the reporting obligations and data collection for policies which are out of the scope of the European Environment Agency (EEA) or other DG ENV partners IT solutions. It enables national competent authorities and economic operators to submit required data by the EU Regulation. Its operation, target user group(s) and potential for reuse are further explained in the reuse guide⁷¹ of IT tools supporting the Regulatory Reporting process within the EC.</p>

⁶⁹ The reuse guide of IT tools is available here: https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/984678801/SC370_D05.02_Reuse%20Guide_vF.pdf?version=1&modificationDate=1637055870609&api=v2

⁷⁰ The reuse guide of IT tools is available here: https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/984678801/SC370_D05.02_Reuse%20Guide_vF.pdf?version=1&modificationDate=1637055870609&api=v2

⁷¹ The reuse guide of IT tools is available here: https://webgate.ec.europa.eu/fpfis/wikis/download/attachments/984678801/SC370_D05.02_Reuse%20Guide_vF.pdf?version=1&modificationDate=1637055870609&api=v2

Available material to support the (re)use of data	
	<p>KEEP SOLUTIONS⁷² is Portuguese company providing solutions for information management and digital preservation. Its role is to maintain the archived data to make sure it is stored, accessible and usable through a defined period of time. Its services are, for instance, used by EC Directorate-General for Taxation and Customs Union (DG TAXUD) and the European Publications Office, as they need to maintain their data for long-term periods, which most of the time equates to more than 7 years, in order to be able to retrieve this data and reuse it when needed.</p>
	<p><i>EC only</i> - SIGMA EST, which serves as a mapping and translation tool, available online, through which the data provider has to match the national variables with the EFSA variables only once, and then the data fits forever for all animal species and for all pathogens.</p>
	<p><i>EC only</i> - The Corporate Reference Data Management⁷³ emphasises that the availability and accuracy of metadata is an important feature of data assets to facilitate data sharing⁷⁴.</p>
	<p>Moreover, the SEMIC Action⁷⁵ of the EC aims to improve semantic interoperability in European government systems, by offering unified semantics that allow for the reuse of data, enhancing in this way, metadata creation. This resource should be investigated and reused if relevant⁷⁶.</p>
	<p><i>EC only</i> - The EC Data Catalogue (still interim) focuses on an inventory of key data assets held by DGs, services and executive agencies that are relevant for the Commission's decision-making processes and functioning. It gives access to metadata only, there is no direct access to data (only via linking). It is governed by JRC, DIGIT, SG, ESTAT and OP.</p>


⁷² More information is available here: <https://www.keep.pt/>

⁷³ See Corporate Reference Data Management policy in the European Commission <https://op.europa.eu/en/web/eu-vocabularies/corporate-reference-data-management>

⁷⁴ From the [issue paper](#) on The Importance of Metadata for Regulatory Reporting.

⁷⁵ More information is available here: https://ec.europa.eu/isa2/actions/improving-semantic-interoperability-european-e-government-systems_en

⁷⁶ From the [issue paper](#) on The Importance of Metadata for Regulatory Reporting.

Available material to support the (re)use of data	
	<p><i>EC only</i> - The TENtec information system⁷⁷ enables the European Commission to easily compile information and create timely reports and maps. All stakeholders concerned, including citizens and professionals, benefit from increased visibility, data quality and systematic up-to-date overview of the budget execution and technical implementation for each TEN-T/CEF project, through interactive maps, a map library available on the TENtec Public Portal⁷⁸.</p>

⁷⁷ More information on the TENtec information system is available here: <https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/tentec.html> and here: http://ec.europa.eu/transport/infrastructure/tentec/tentec_en.htm

⁷⁸ The TENtec Public Portal is available here: https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/index_en.htm

Appendix

Table 1 - Overview of good practices addressing challenges associated with overall regulatory reporting process

Challenges	Good Practices
Challenge 1 Increase administrative burden on the reporting entities	Good Practice 3 Establish clear data governance
	Good Practice 5 Ensure the consultation of all involved stakeholders prior to the setup of a new regulatory reporting process
Challenge 2 Lack of clarity/harmonisation in the regulatory reporting requirements	Good Practice 2 Foster closer collaboration between the EC's legal, IT and policy services
	Good Practice 3 Establish clear data governance
Challenge 3 Lack of coordination among regulatory entities	Good Practice 2 Foster closer collaboration and promote coordination between all relevant stakeholders involved in each step of the regulatory reporting process
	Good Practice 5 Ensure the consultation of all involved stakeholders prior to the setup of a new regulatory reporting process
	Good Practice 6 Set up a service related to data management and data analytics
Challenge 4 Lack of awareness of the value of reported data and metadata	Good Practice 1 Raise awareness on the importance of reported data and related metadata
Challenge 5 Lack of semantic interoperability	Good Practice 4 Build a unified ontology within the EC

Table 2 - Overview of good practices addressing challenges associated with the setting of regulatory reporting requirements

Challenges	Good Practices
Challenge 6 Low awareness of the potential of technologies when designing legislation	Good Practice 7 Assign responsibility to an organisation for keeping track of the latest market developments, new tools, and technologies
	Good Practice 12 Assess the impact and feasibility of integrating emerging technologies within tools
Challenge 7 Work in silos leading to a lack of awareness of reporting requirements across EU law	Good Practice 8 Ensure a more efficient communication at different governance level
	Good Practice 9 Put in place a knowledge base to centralise information on the data collected through regulatory reporting obligations across units, DGs and agencies
Challenge 8 Lack of awareness of the broader EU policy objectives	Good Practice 8 Ensure a more efficient communication at different governance level
Challenge 9 Short-term thinking for long-term data, which results in a poor potential for reuse and incomparability of data	Good Practice 10 Consider conducting a fitness check on monitoring and reporting requirements
	Good Practice 11 Draw on the five regulatory reporting principles when designing regulatory reporting requirements in EU legislation
	Good Practice 13 Revise existing legislation in order to streamline regulatory reporting requirements
	Good Practice 14 Legal clauses should clearly specify the use that can be made of reported data

Table 3 - Overview of good practices addressing challenges associated with the collection of data

Challenges	Good Practices
Challenge 10 Lack of resources to support reporting entities	Good Practice 15 Promote collaboration between actors involved in the collection of data
	Good Practice 16 Reach out to national authorities to identify ways to minimise (or at least align) fragmented national level reporting and pool resources

	Good Practice 17 Introducing frameworks to automate the data collection process from the reporting entities to the regulatory entities
Challenge 11 Inadequate preparation and lack of testing	Good Practice 18 Provide clear guidelines for reporting entities on how to implement reporting requirements set in specific legislation, including templates if needed
	Good Practice 19 Provide clear and exhaustive validation rules

Table 4 - Overview of good practices addressing challenges associated with the processing of data

Challenges	Good Practices
Challenge 13 Resource-intensive process	Good Practice 20 Using data analytics platforms
	Good Practice 21 Leverage the power of emerging technologies

Table 5 - Overview of good practices addressing challenges associated with the use and reuse of data

Challenges	Good Practices
Challenge 14 Lack of guidance on data reuse	Good Practice 22 Be aware of the different stakeholders related to data
	Good Practice 25 Prioritise the reuse of master data
	Good Practice 26 Reusing reference data
	Good Practice 27 Develop and maintain reference data
	Good Practice 28 Making data easily findable and usable
Challenge 15 Lack of specifications leading to incomparability of data	Good Practice 25 Make and maintain metadata precise and available
Challenge 16 Lack of customisable IT solutions	Good Practice 21 Leverage the power of emerging technologies
	Good Practice 29 Investigate the development of RegTech and SupTech tools
Challenge 17 Lack of IT skills	Good Practice 23 Enhance staff skills and competences on data use
Challenge 18 Data sensitivity can be an obstacle to its (re)use	Good Practice 30 Amending the legislation



Regulatory Reporting Community