Review
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Digitalising the management of EU funds

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Contents

Executive summary

I Where properly managed, digitalisation can transform public administrations helping them to deliver their services in a more efficient, reliable and secure manner. Through digitalisation, the Commission is seeking to reinvent the way it works and improve the management of EU funds. This can also contribute to protecting the EU's financial interests by ensuring more timely, consistent and better quality data.

II This review describes and analyses the current state of digitalisation in the management of EU funds as well as planned developments. We aim to contribute to this process by identifying opportunities, challenges and implications for audit. We looked at operational expenditure under direct, indirect and shared management, focusing on the grants and procurement. This is not an audit report; it is a review based mainly on publicly available information or material specifically collected for this purpose.

III In its 2018 Digital Strategy, the Commission asserted its goal of becoming "truly digital" by 2022. This was followed in mid-2022 by a new Digital Strategy, with key actions to be achieved by the end of 2024. The main challenge for the Commission in its management of EU funds is to modernise its financial management system. The Commission also has plans to simplify its complex IT landscape by reducing the large number of local systems it uses internally, and further streamline its business processes. In that sense, the "truly digital Commission" is still a work in progress.

IV The Commission already operates several corporate IT systems. For example, it mainly uses a well-integrated and automated IT system for the award of grants. In the area of procurement, a corporate system is operational for phases prior to the award of contracts, and still under development for the phases after contracting. However, the Commission does not have a corporate system for all its indirect management needs: in this area it is still finalising some IT projects.

V There are variations in the degree of digitalisation of EU spending under shared management in which multiple bodies operate in a range of jurisdictions and may face different technical and organisational barriers. The Commission has digitalised its procedures for making payments to member states. In member states, digitalisation is more advanced under the common agricultural policy (in particular for direct payments), where the pattern of payments in member states is more homogenous than in other shared management areas. There are greater differences among national

authorities in their use of IT in cohesion policy and rural development funding. Member states also vary in the extent to which they exploit electronic procurement.

VI Transparency of contractors and beneficiaries of EU spending currently relies on multiple databases and portals, and varies by management mode and policy. It is most centralised where the Commission has direct management, and more fragmented for the other management modes. There are also some differences in the manner in which information is disclosed. Likewise, IT tools to enhance protection of the EU budget are unevenly deployed across the management modes. In its 2022 proposal for a recast of the EU Financial Regulation, the Commission spoke in favour of more harmonisation, but did not go far enough as we commented upon in our opinion 06/2022.

VII Digitalisation has the potential to make not only management, but also auditing of EU funds more efficient. For example, access to IT systems can speed up the process of collecting and analysing the evidence stored therein. However, owing to variations in the degree of digitalisation and the sheer number of IT systems used to implement the EU budget, it is currently impossible to undertake large-scale testing. Differences in data governance are another obstacle: some essential data is still unstructured or only available directly from managing authorities or beneficiaries, and thus unsuitable for digital audit and comprehensive analysis.

VIII The Commission and other bodies implementing the EU budget face many challenges in their digitalisation efforts. For example, to streamline the management of EU funds, it will be necessary to simplify the IT landscape still further, by reducing differences and improving interoperability between IT systems and the data used by the many implementing bodies.

Introduction

Digitalisation can help to manage EU funds more efficiently

01 According to the Organisation for Economic Co-operation and Development (OECD), "Digitalisation is the use of digital technologies and data as well as interconnection that results in new or changes to existing activities"[1]. Timely and reliable data is a key requisite for the efficient management of EU funds. Capitalising on the opportunities offered by digital technologies to efficiently use data is necessary for organisations to thrive[2]. Digitalisation is more than making data machine-readable; it has the potential to change business processes considerably.

02 Through digitalisation, the Commission is seeking to reinvent the way it works[3]. Digitalisation can be a means of increasing harmonisation in the management of EU funds and reducing the administrative burden for both Commission staff, contractors and beneficiaries of funding. It also contributes to protecting the EU's financial interests by ensuring more timely, consistent and better quality data. Finally, it may have benefits for audit, which can become more efficient through the use of digital techniques based on the extraction of data in a readable format from IT management systems. Reduced manual handling should allow auditors to analyse larger quantities of data and conclude on bigger populations.

03 Stakeholder interest in digitalising the management of EU funds has increased in recent years. For example, in its resolution on the 2020 discharge for the general EU budget, the European Parliament emphasised the importance of a single interoperable database on the beneficiaries of EU funding. It called on the Commission to ensure protection of the EU budget by using digital and automated systems for monitoring, reporting and audit.

04 Digitalisation has been a strategic priority of the Commission for many years. The Commission has initiated a number of actions to rationalise and improve its corporate digital landscape in recent years. ***Figure 1*** presents key IT-related strategic documents to this end.

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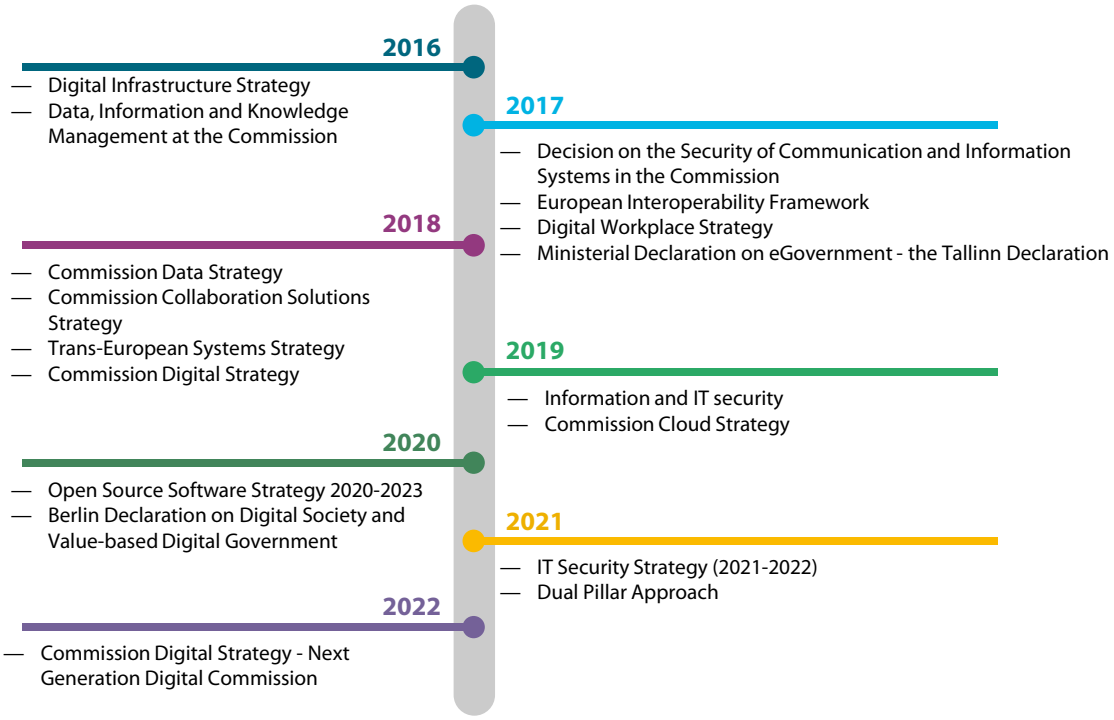
1 OECD (2019), "Going digital: Shaping Policies, Improving Lives", OECD Publishing, Paris.

2 Commission digital strategy, C(2018) 7118, p. 2.

3 Ibid, p. 3.

Figure 1 – Key corporate IT-related strategic documents



Source: ECA, based on Commission and public information.

05 In its 2018 Digital Strategy, the Commission set the goal of becoming a "digitally transformed, user-focused, and data-driven administration" by 2022 and identified several high-level principles, such as "digital by default", transparency, interoperability and user-centric. Political guidelines established for the 2019-2024 period reinforced this goal, which focuses on setting up a "data eco-system" of interconnected resources and services.

06 Each Commission department is required to assess its adherence to the strategy for each IT solution it implements. In 2021, departments reported on their progress in the light of these principles, and revealed different degrees of adherence, from 10 % to 100 % for 2021. In their estimates for 2022, most departments forecast improvements, but not full adherence[4]. In mid-2022, the Commission adopted a new Digital Strategy, with key actions to be achieved by the end of 2024. These include strengthening cybersecurity, the use of emerging technologies such as artificial intelligence, and enhanced interoperability.

[4] 2021 annual activity reports of Commission departments

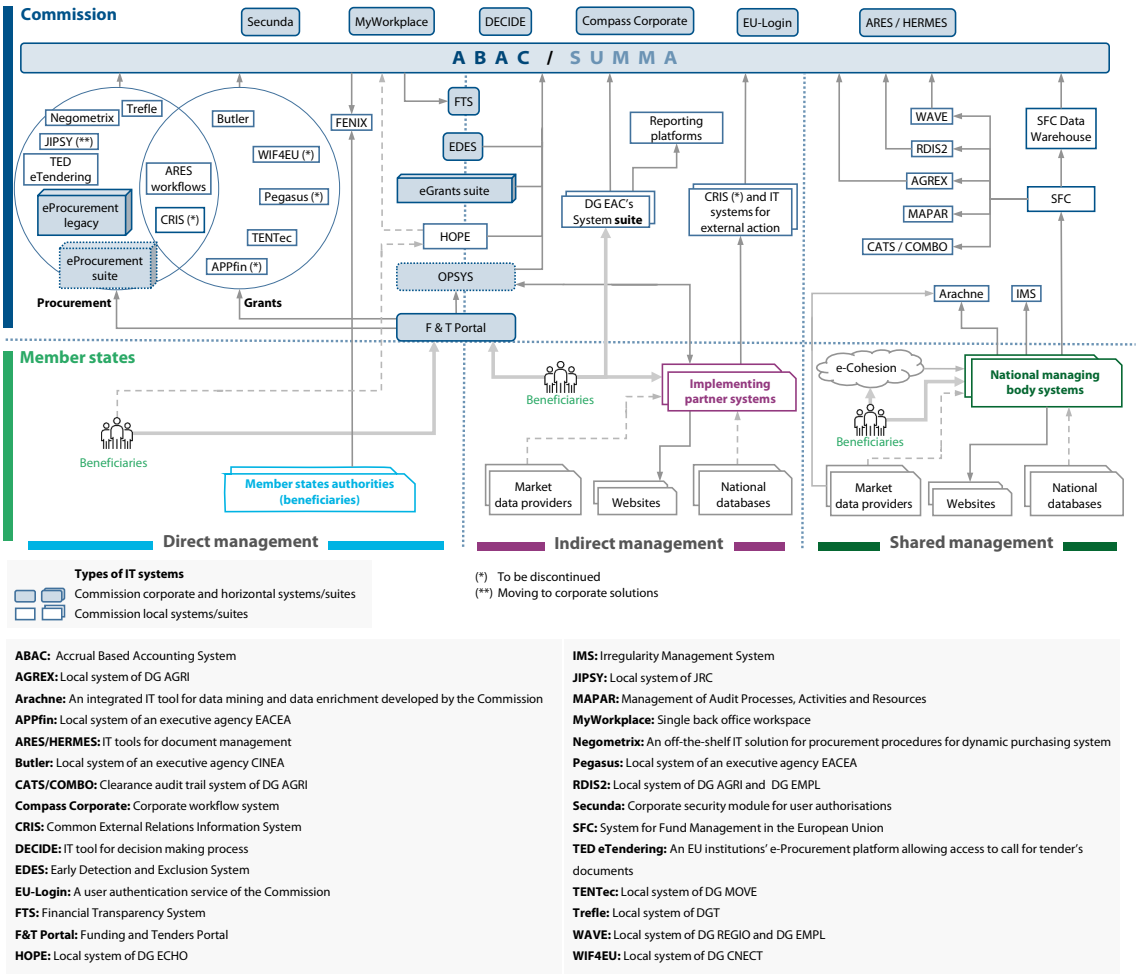
Many IT systems are used in the management of EU funds

07 The Commission has a complex landscape of IT systems, digital solutions and datasets[5]. Its core system for central budgetary, accounting and treasury processes is currently ABAC, its financial management system (to be replaced with a new system – SUMMA – see paragraph ***19***). ABAC is the direct source for much of the Commission's official financial reporting. To provide information on financial transactions, ABAC interfaces and exchanges information with some 80 local systems.

08 The Commission has several other IT systems relevant to the management of EU funds and protection of the EU's financial interests, such as the Irregularity Management System (IMS), the Early Detection and Exclusion System (EDES) and Arachne, a data mining and risk-scoring tool. Moreover, there are many national databases, such as business and tax registers, ultimate beneficial owner registers, public procurement platforms, and the databases of bodies responsible for implementing the EU budget. ***Figure 2*** provides an overview of the key IT systems used for managing EU funds.

[5] Commission digital strategy, C(2022) 4388.

Figure 2 – Key IT systems used in the management of EU funds



ABAC: Accrual Based Accounting System
AGREX: Local system of DG AGRI
Arachne: An integrated IT tool for data mining and data enrichment developed by the Commission
APPfin: Local system of an executive agency EACEA
ARES/HERMES: IT tools for document management
Butler: Local system of an executive agency CINEA
CATS/COMBO: Clearance audit trail system of DG AGRI
Compass Corporate: Corporate workflow system
CRIS: Common External Relations Information System
DECIDE: IT tool for decision making process
EDES: Early Detection and Exclusion System
EU-Login: A user authentication service of the Commission
FTS: Financial Transparency System
F&T Portal: Funding and Tenders Portal
HOPE: Local system of DG ECHO
IMS: Irregularity Management System
JIPSY: Local system of JRC
MAPAR: Management of Audit Processes, Activities and Resources
MyWorkplace: Single back office workspace
Negometrix: An off-the-shelf IT solution for procurement procedures for dynamic purchasing system
Pegasus: Local system of an executive agency EACEA
RDIS2: Local system of DG AGRI and DG EMPL
Secunda: Corporate security module for user authorisations
SFC: System for Fund Management in the European Union
TED eTendering: An EU institutions' e-Procurement platform allowing access to call for tender's documents
TENTec: Local system of DG MOVE
Trefle: Local system of DGT
WAVE: Local system of DG REGIO and DG EMPL
WIF4EU: Local system of DG CNECT

Source: ECA, based on Commission information.

09 EU budget spending covers three main phases - preparation, implementation and reporting – and is subject to the rules in the EU Financial Regulation. All programmes funded from the budget are managed under three management modes: direct management (by the Commission or other EU institutions/bodies), indirect management (by the Commission's partner organisations or other authorities inside or outside the EU) or shared management (by the Commission and member state authorities jointly).

10 Grants and procurement are the EU's main budget implementation instruments, and cover most EU budget spending. They involve similar processes (publicity, evaluation of applications/bids, awarding contracts, payments, monitoring and reporting) and are governed by common principles in the Financial Regulation, such as transparency, equal treatment and non-discrimination.

Scope and approach

11 In this review, we aim to respond to strong stakeholder interest by giving a comprehensive picture of digitalisation in the management of EU funds. The review looks at the use of data by the IT systems the Commission has put in place to manage operational expenditure from the EU budget. It covers all three management modes (direct, indirect and shared) in selected policy areas and Commission departments including nine general directorates (DG) and one executive agency (see ***Figure 3***). We consulted some member state authorities to gather additional information concerning their use of IT systems and data for managing EU funds.

Figure 3 – 2022 payments from the EU budget, by heading, management mode and selected Commission departments

(a) European Research Executive Agency; DG Research and Innovation; Joint Research Centre; DG Economic and Financial Affairs.
(b) DG Employment, Social Affairs and Inclusion; DG Regional and Urban Policy.
(c) DG Agriculture and Rural Development.
(d) DG International Partnerships.
(e) DG Budget; DG Informatics.

Source: ECA, based on Commission information (ABAC).

12 In conducting this review, we aimed to identify key opportunities and challenges associated with the current state of digitalisation, and explore possible implications for digital audit of EU funds. We focused on the following processes and tools:

- budgetary implementation and accounting;
- the management of grants and procurement; and
- tools designed to ensure the transparency of spending and protect the EU's financial interests.

13 This is not an audit report, but a review. We based our work on publicly available information, such as Commission and European Parliament reports and studies, and also our own previous work and accumulated knowledge. We collected new information by specifically requesting additional documents, such as internal reports and working documents, and interviewed relevant staff from ten Commission departments (***Figure 3***). We also sent a survey to 25 other departments in order to add to our understanding of the current state of digitalisation at the Commission, and received 21 replies. The review focuses on the period from January 2014 until December 2022.

The “truly digital” Commission is a work in progress

The Commission has been taking action to simplify its digital landscape

14 The Commission has a fragmented landscape of IT systems, digital tools and datasets (paragraphs ***07*** and ***08***). It has launched several flagship projects to make key IT systems available for corporate use throughout the institution. The Commission expects the introduction of corporate systems to simplify its IT landscape, streamline its business processes and make them more efficient.

15 To this end, the Commission put in place a “single electronic data interchange area” (SEDIA) in 2017, a central platform for publishing all funding and tender opportunities from EU institutions and bodies, and a single entry point for (potential) contractors and beneficiaries of EU funding under direct and indirect management. SEDIA interacts with the Commission’s corporate IT systems for administering grants (the “eGrants” suite) and managing procurement (the “eProcurement” suite). Participants therefore use SEDIA to send all documents relating to grants and procurement, such as proposals and reporting on deliverables and milestones.

16 In the same year, the Commission decided to replace ABAC, its financial management system (mainly developed in-house), with SUMMA, an “off the shelf” system. It has also been developing the OPSYS ECOSYSTEM for its departments with responsibility for external action (the “RELEX family”) – see paragraph ***38***. In shared management, the Commission operates the System for Fund Management in the European Union (SFC), the IT system to exchange data with member states, and Arachne.

17 These flagship projects are under the overall supervision of the Commission's Information Technology and Cybersecurity Board[6], but their operational coordination is complex. Governance arrangements are as follows:

- SEDIA, eGrants and eProcurement fall under the responsibility of the Grants & Procurement Steering Board (GPSB). The contract management module in the OPSYS programme was merged into the corporate eProcurement programme under the GPSB, reflecting the Commission's intention to simplify and align the governance and funding of the related IT tools. The other OPSYS programme modules are governed by a separate steering committee for the RELEX family.

- Governance of the SFC and Arachne is exercised by the SFC and Arachne Steering Committees respectively.

- SUMMA also has its own governance structure. There is cooperation between the GPSB and SUMMA at a number of levels, from operational staff to senior management.

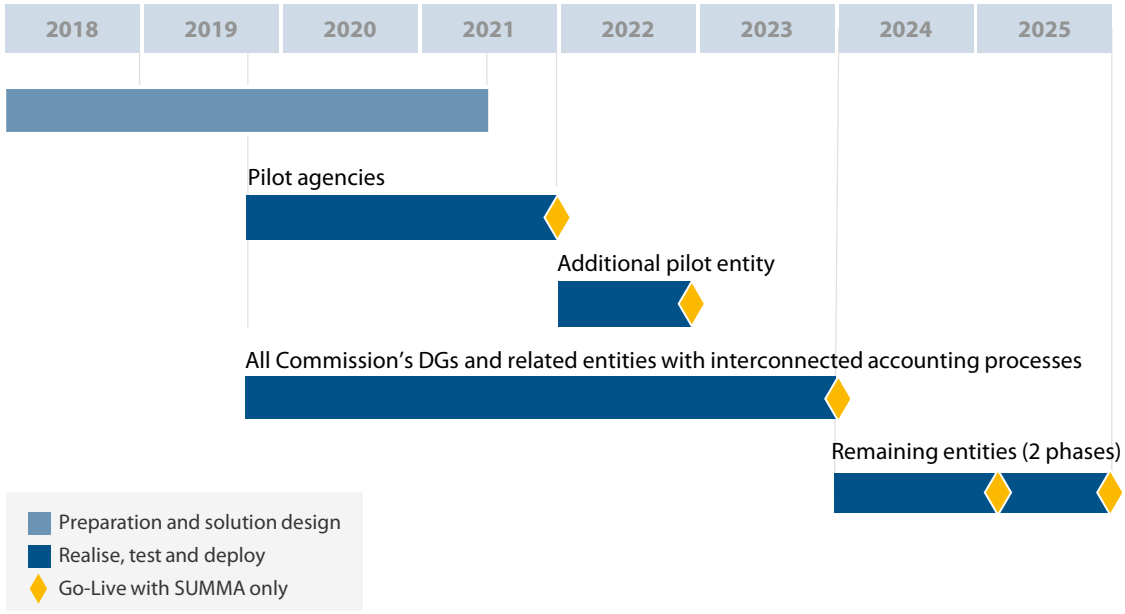
18 Some of the flagship IT projects, such as SUMMA, OPSYS and eProcurement, have been delayed, and they have also gone significantly over budget. The Commission informed us that the key reasons for these delays include an increase in scope, the complexity of governance arrangements, conflicting priorities between the various projects (due to a high degree of interdependence), and the phasing-out of local systems. It also pointed to budgetary constraints.

[6] Communication to the Commission "Streamlining and strengthening corporate governance within the European Commission", C(2018) 7704.

The Commission expects SUMMA to improve the efficiency of financial management

19 ABAC is still in use and has become extremely complex, costly to maintain and unable to meet the Commission's future needs. ***Figure 4*** shows the current timeline for replacing ABAC with SUMMA. Since January 2022, SUMMA has been piloted at three EU agencies[7]. In January 2023, SUMMA was rolled out to a fourth EU body[8].

Figure 4 – Current SUMMA timeline for the Commission and related entities



Source: ECA, based on Commission information.

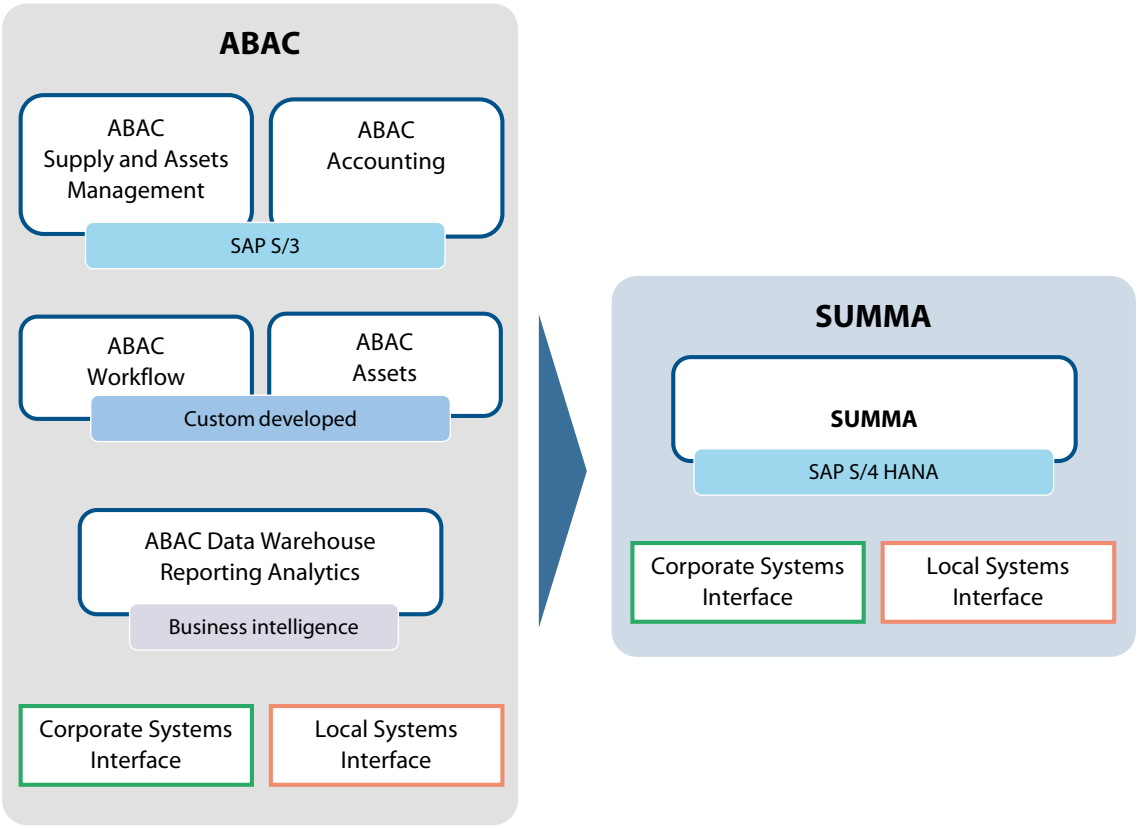
20 SUMMA essentially aims to cover the same processes as ABAC, but with more comprehensive functions, and a more streamlined and less customised architecture (***Figure 5***). Like ABAC, to produce the annual accounts SUMMA will also rely on financial data originating from other local and corporate Commission systems. By reducing the number of local systems connected to SUMMA (from around 80 to below 60) through decommissioning or the imposition of corporate solutions, and standardising technical integration with SUMMA, the Commission is seeking to cut maintenance costs and reduce security risks. SUMMA is intended to interface with up

[7] The European Climate, Infrastructure and Environment Executive Agency, the European Union Agency for Railways and the European Union Agency for Criminal Justice Cooperation.

[8] The Clean Aviation Joint Undertaking.

to 20 local systems that will feed it with financial data. About 40 other local systems will take data from the SUMMA Data Warehouse.

Figure 5 – Compared to ABAC, the SUMMA architecture has fewer and less custom developed systems



Source: ECA, based on Commission information.

21 According to the Commission, the key benefits of SUMMA are its potential to:

- simplify and standardise business processes (e.g. automated validation of newly created business partners), with new reporting, forecasting and analytics capabilities (e.g. budget implementation dashboard) and a centralised data repository for all accounting and controlling data;
- increase efficiency by leveraging modern technology and automation;
- enhance controls and compliance (e.g. improved built-in data quality checks);
- reduce risks to business continuity by employing more modern technology;
- reduce infrastructure maintenance costs.

22 Owing to the large volume of data, it will be difficult for the Commission to migrate all transactions fully from ABAC. It therefore plans to migrate only open transactions to SUMMA. Closed transactions will remain in the ABAC Data Warehouse, where they will incur maintenance costs. The Commission does however plan to include closed transactions in a "single view" in SUMMA comprising historical data from ABAC.

Opportunities, challenges and audit implications of the digitalisation of the Commission's management of EU funds

23 The development of digital tools, as described above, opens up considerable opportunities for the Commission to do its business more efficiently by:

- exploiting the wider use of emerging technologies for the management of EU funds, especially in SUMMA;
- reducing the number of local systems, which should lead to lower maintenance costs and security risks;
- further streamlining business processes by applying corporate IT solutions instead of local systems.

24 But digitalisation also brings challenges, such as:

- further streamlining of a still complex IT landscape;
- replacing ABAC with SUMMA, which will bring data migration risks in particular;
- completing the flagship projects without further delays, while ensuring sufficient funding and resources, and overcoming the silos culture linked to the use of local systems.

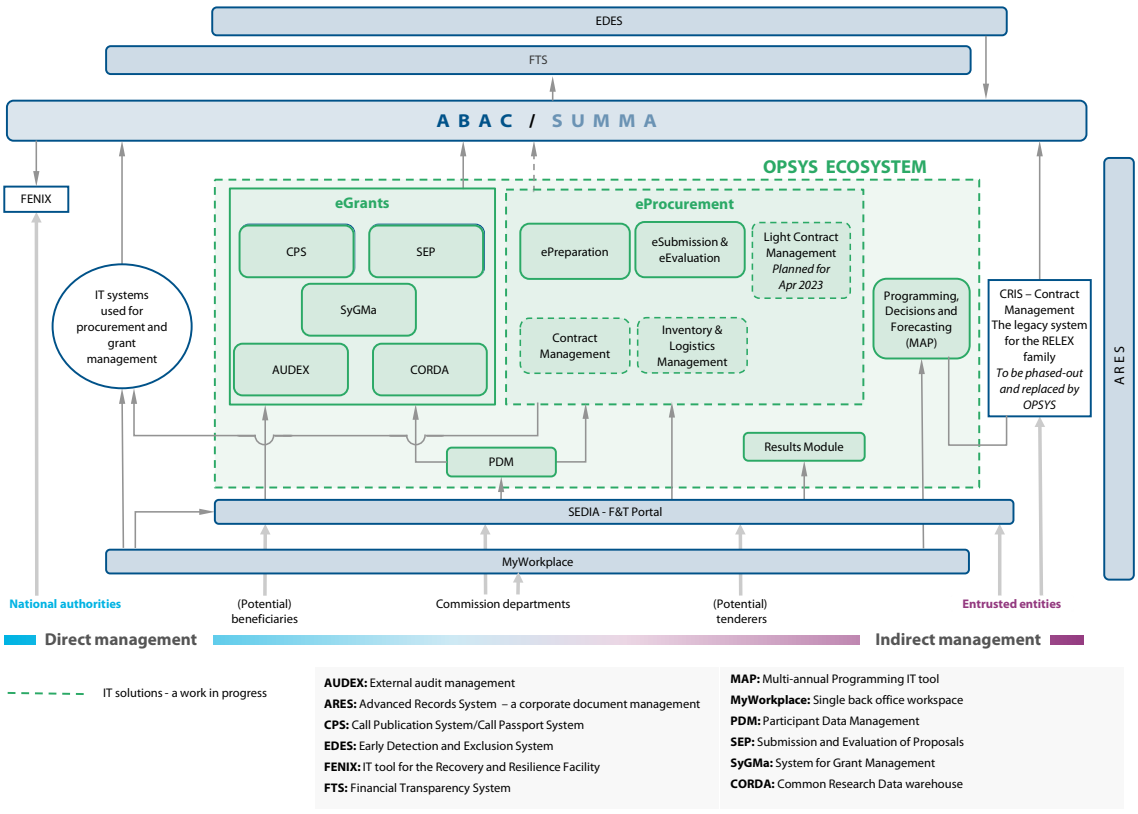
25 In our view, financial audit of the Commission's consolidated accounts is a prime candidate for the use of digital audit, as the necessary data is stored in a single system (ABAC). For example, using an IT tool for the automated extraction of documents allowed us to note some efficiency gains. Other areas that might benefit from automation include the examination of commitments and payments in the context of shared and direct management. However, at the moment, a uniform financial audit approach for the entire population of transactions is not possible as some agencies and other bodies do not use ABAC.

26 The replacement of ABAC by SUMMA might require some adjustments to our digital audit, or its re-development in response to the new reporting capabilities and other technological changes that are expected from SUMMA. During the transitional period, we believe that checks will be necessary to confirm the completeness of the migration from ABAC. However, we expect the SUMMA's new reporting tool to save us time on comparative checks in future.

Digitalisation of grants and procurement management in direct and indirect management is uneven

27 In direct management (accounting for one fifth of payments from the EU budget), the Commission implements EU funds through its own departments and agencies. In indirect management (one tenth), funding is managed by other public sector bodies or bodies with a public mission – known as "entrusted entities". ***Figure 6*** shows the key IT systems and data flows in direct and indirect management. Several IT systems, such as the F&T Portal, eGrants and the Financial Transparency System (FTS), are used under both management modes.

Figure 6 – Key IT systems and data flows in direct and indirect management

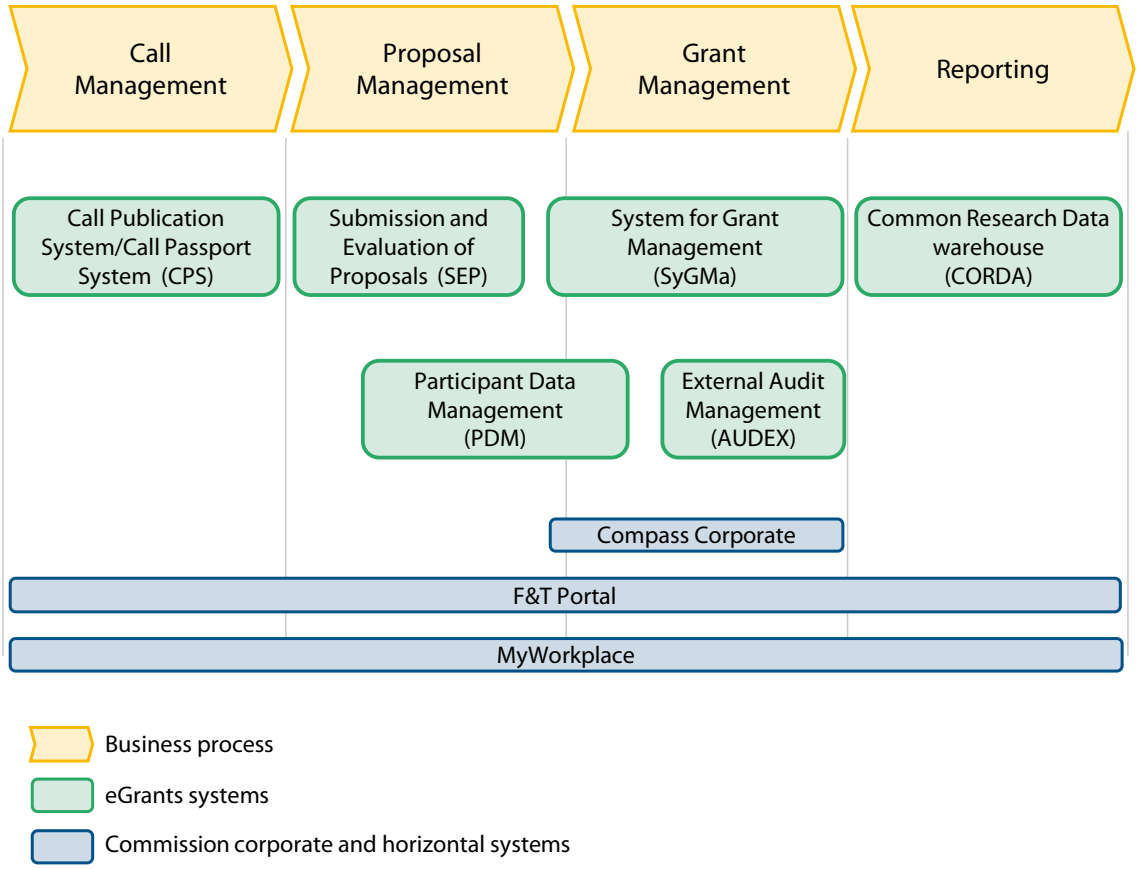


Source: ECA, based on Commission information.

Most EU grants under direct management are covered by an IT system with automated processes

28 The eGrants suite has been operating since 2014 and is now the Commission's corporate system for managing direct grants. It is not a single system, but consists of a range of complementary and well-integrated[9] IT tools, that mostly exchange data automatically. eGrants therefore offers an automated process for the entire grant management lifecycle. By using electronic signatures, it contributes to paperless management. eGrants is integrated with AUDEX, an audit management and data storage tool which the Commission and its audit contractors use to manage external audits. ***Figure 7*** shows how these tools tie in with the Commission's business processes.

Figure 7 – The eGrants tools and the Commission's business processes



Source: ECA, based on Commission information.

[9] 2021 annual report, paragraph 4.25.

29 The objective is for eGrants to cover almost all directly managed grants and all relevant funding programmes under indirect management. By January 2022, the Commission had managed almost 90 % of its direct grants in eGrants. Once seven new funding programmes currently under examination have been on-boarded, the Commission expects the system to cover 98 % of all its programmes that use direct grants. The remainder will be excluded because they each comprise a relatively small number of transactions, so the Commission considers the switch to be inefficient.

30 eGrants has a number of automated functions which reduce the need for manual intervention and the risk of human error and increase management efficiency. These include the creation of various documents on the basis of some 500 templates, the batch sending of notifications to beneficiaries, and a history of changes. There are also a number of embedded checks (***Box 1***).

Box 1

Examples of embedded checks and automated functions in eGrants

After verifying the data on a participant's legal status and financial capacity, eGrants sends a request to ABAC to create a counterparty record and checks for data matches between the two systems.

Before a contract is signed, eGrants performs checks with EDES to prevent grants being awarded to beneficiaries in an exclusion situation[10]. eGrants also checks that the necessary signed declarations on honour have been furnished.

Two dedicated IT functions, ARIS and SIMBA, check project proposals for double funding and plagiarism by searching for similarities between projects and creating reports for all funding programmes and project proposals in eGrants.

Source: ECA, based on Commission information.

[10] Article 141 of Regulation (EU) 2018/1046.

31 However, some manual checks are still performed outside eGrants. See ***Box 2*** for examples.

Box 2

Examples of manual checks outside eGrants

The Commission's central validation service at the European Research Executive Agency checks the legal status and financial capacity of successful participants in grants and procurement procedures for all EU programmes under direct management[11]. Most of these checks are manual.

Some call criteria are also checked manually, such as a project proposal's basic admissibility and eligibility. These checks are recorded on forms in eGrants. The results of evaluations, such as the ranking of successful proposals, are uploaded to the system.

If the Commission rejects any declared costs, the corresponding grant reduction needs to be calculated manually and entered in the SyGMa payment calculator.

Source: ECA, based on Commission information.

32 Furthermore, large-scale automatic controls and analysis are not possible because some data is unstructured (e.g. beneficiary documentation such as financial statements, deeds of establishment, tax declarations) or not digital at source due to different national governance arrangements. eGrants does not store all essential evidence, such as accounting evidence from beneficiaries. Invoice-level details and supporting information is particularly lacking. In our 2021 annual report, we noted that "in accordance with the current legal basis, there is no link between beneficiaries' accounting systems and the SyGMa reporting system"[12].

[11] Commission Decision C (2021) 952

[12] 2021 annual report, paragraph 4.26.

The Commission created an IT system for the RRF, which is a reporting tool

33 In July 2020, in response to the COVID-19 pandemic, the Council agreed on funding of more than €750 billion[13] for the NextGenerationEU (NGEU) temporary recovery instrument. The centrepiece of the NGEU is the Recovery and Resilience Facility (RRF)[14], which is worth up to €672.5 billion[15], and is managed directly by the Commission. Member states had to prepare national recovery and resilience plans composed of a package of public investments and reforms, which were assessed and agreed with the Commission, and eventually approved by the Council, with payment tied to the achievement of a specific set of targets and milestones.

34 The Commission put in place a dedicated IT system known as FENIX to receive information on payment requests from member states, underlying evidence on the fulfilment of milestones and targets, and other supporting documents such as management declarations and summaries of audits. All this information is automatically registered in the Advanced Records System (ARES), a corporate tool for document management. FENIX also operates in conjunction with other IT systems used by the Commission. For example, because of the RRF's ties to the European Semester, it is linked to the CeSaR database of country-specific recommendations. It also feeds into the Recovery and Resilience Scoreboard, a public online platform that the Commission launched at the end of 2021 to provide updates on the implementation of the RRF and member states' national recovery plans.

35 The Commission assesses payment requests in two stages. After making a preliminary assessment, it must await the Council's opinion before it can take a formal payment decision. The Commission carries out all of its work leading to payment decisions outside FENIX. During the payment process, the Commission may require additional documents which member states should generally upload to FENIX. If submitted outside FENIX, these documents are manually registered in ARES. As a result, all documents listed in the Commission's record of the assessment process are available in ARES, but not in FENIX. FENIX retrieves data on payments from ABAC, where it is processed manually.

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[13] Commission "The EU's 2021-2027 long-term budget and NextGenerationEU".

[14] Regulation (EU) 2021/241

[15] Ibid.

The Commission does not have a corporate IT solution for indirect management

36 In indirect management, the Commission implements EU spending through "entrusted entities", which award grants and procurement contracts, make payments, assess contract deliverables, carry out checks and recover any unduly paid funds. Entrusted entities have to undergo an ex-ante assessment of their rules, systems and procedures, under the "pillar assessment", against the Commission's requirements for indirect management[16]. The Commission has a range of contract types with entrusted entities, which dispose of varied administrative capacities. Some documents provided by entrusted entities are only available in paper or pdf files. The Commission has been developing an IT tool to monitor the pillar assessment process internally, the Pillar Assessment Automated Workflow. As a first phase, in December 2022 it launched a database containing information on entrusted entities. In 2023, the Commission plans to deliver the full workflow tool to enable departments directly to update information on the entities under their remit.

37 The Commission has not put in place a single corporate IT tool for the entire lifecycle of operations under indirect management. For example, DG Research and Innovation manages part of the EU Framework Programmes for Research and Innovation (almost €1 250 million of payments in 2021), partly delegating implementation to other bodies, such as joint undertakings (about €460 million) and so-called "Article 185"[17] public-public partnerships with member states (about €230 million). While joint undertakings use the same IT tools as the Commission[18], Article 185 bodies use their own systems. The Commission has no dedicated IT tool for collecting and managing the information it receives from the Article 185 bodies, which include payment requests and reporting. Instead, it relies on more traditional channels of communication, such as email and the post.

38 The Commission departments implementing the EU's external action policy use the Common External Relations Information System (CRIS). This local legacy system is due to be phased out and fully replaced by the OPSYS ECOSYSTEM, which consists of, on one hand, corporate eGrants, eProcurement and SEDIA, and, on the other hand, IT tools specific to the RELEX family (the OPSYS programme). The OPSYS programme was launched in 2018 and is expected to be fully operational in 2023/2024. For now, OPSYS

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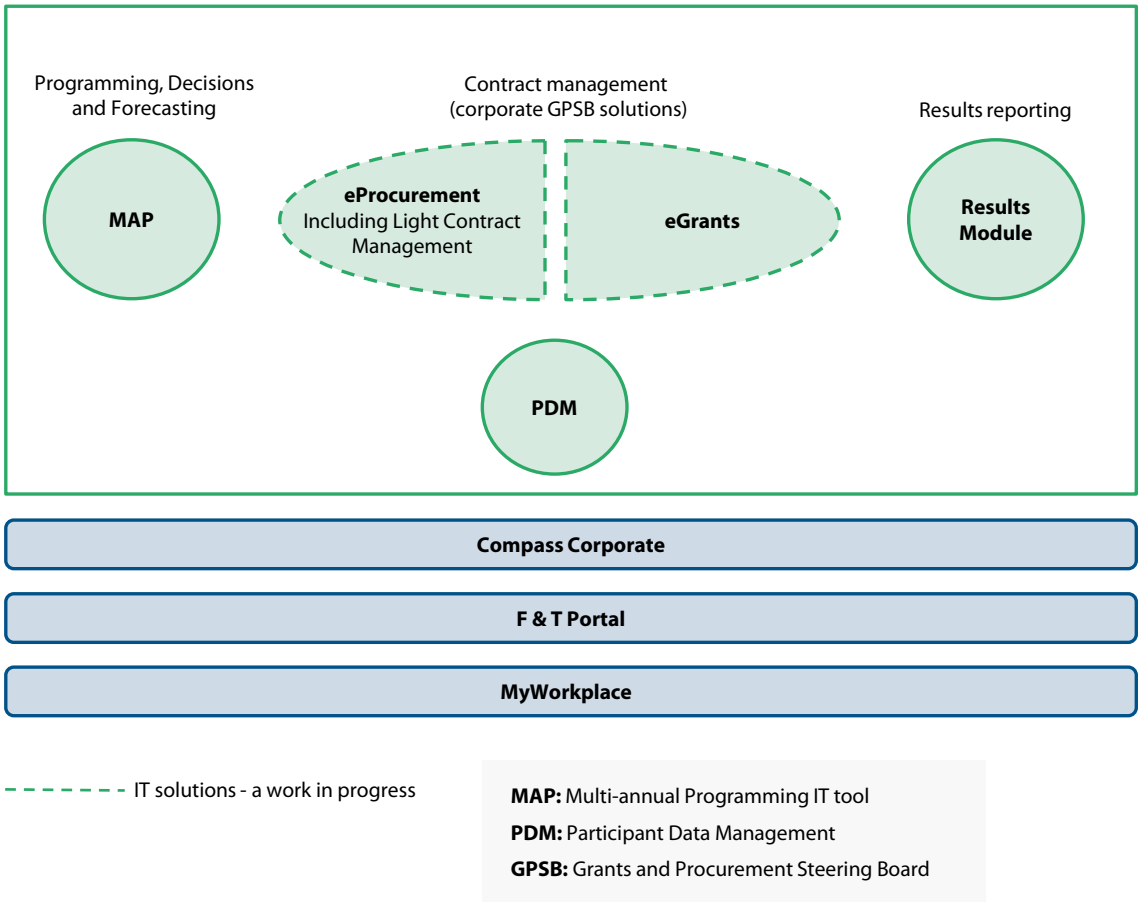
[16] Commission Decision (2019/C 191/02)

[17] Article 185 of the Treaty on the Functioning of the EU.

[18] Annex 11 of 2021 annual activity report of DG Research and Innovation.

ECOSYSTEM and CRIS are functioning in parallel. For example, contracting is planned in OPSYS ECOSYSTEM, and implementation is managed in CRIS, for certain types of contracts. The currently useable OPSYS modules include the Results module for reporting and the MAP tool for programming. The latter is set to be extended to other departments, as a corporate solution, by 2024. Other modules under development include eProcurement's Light Contract Management for contribution agreements, which should replace the CRIS contract module in 2024. OPSYS is to be integrated with other corporate IT systems, such as eProcurement and eGrants, see ***Figure 8***.

Figure 8 – Structure of the OPSYS ECOSYSTEM



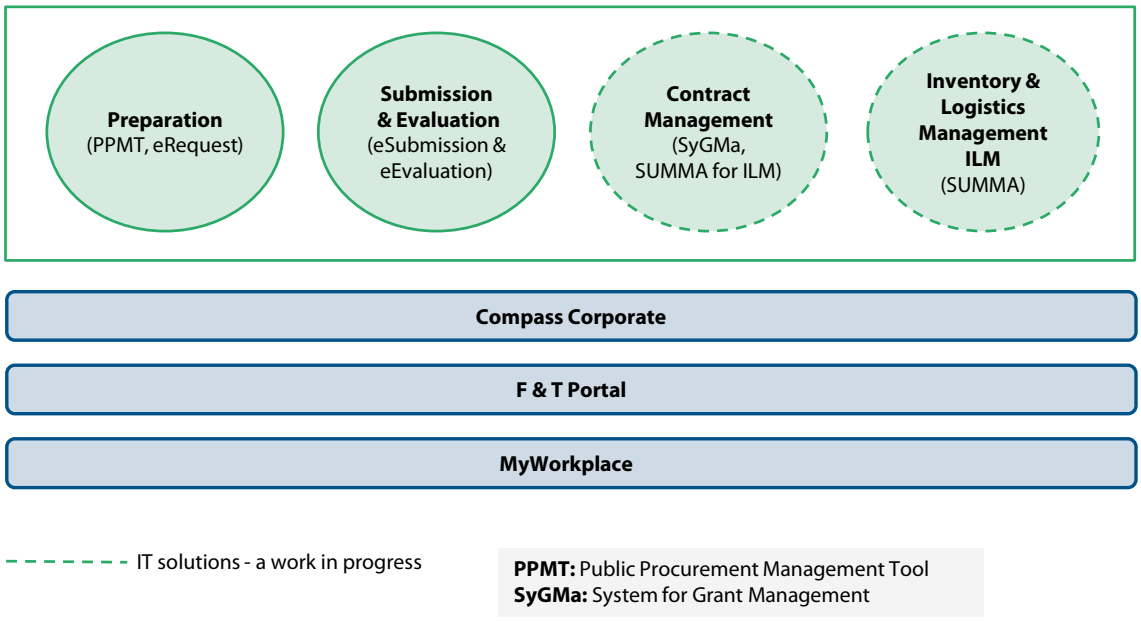
Source: ECA, based on Commission information.

39 The Commission plans to have OPSYS ECOSYSTEM cover the entire project cycle from programming, through contracting and implementation, to reporting. It is expected to deliver certain improvements compared with the current IT tools. It should provide external users with access for the purposes of communication and data exchange (e.g. applications, progress and final reports, including payment requests, reporting on results) throughout the lifecycle of a project. Commission staff should benefit from more automation of tasks and workflows, including the use of the electronic signatures. None of these features are currently available in CRIS.

In procurement, the Commission has taken action to replace the current IT patchwork with a corporate solution

40 The departments we reviewed (***Figure 3***) were responsible for contracts worth more than €2.6 billion in the course of 2021. To manage this spending they used a wide range of IT tools, such as eProcurement, the eProcurement legacy system and local systems – and even, in some cases, no specific IT tools. In 2017, the Commission started developing eProcurement as a fully integrated, automated and paperless system, that should simplify and harmonise all procurement processes and practices both internally and at other EU bodies. eProcurement is described in ***Figure 9***. According to the Commission, it will be integrated with SUMMA.

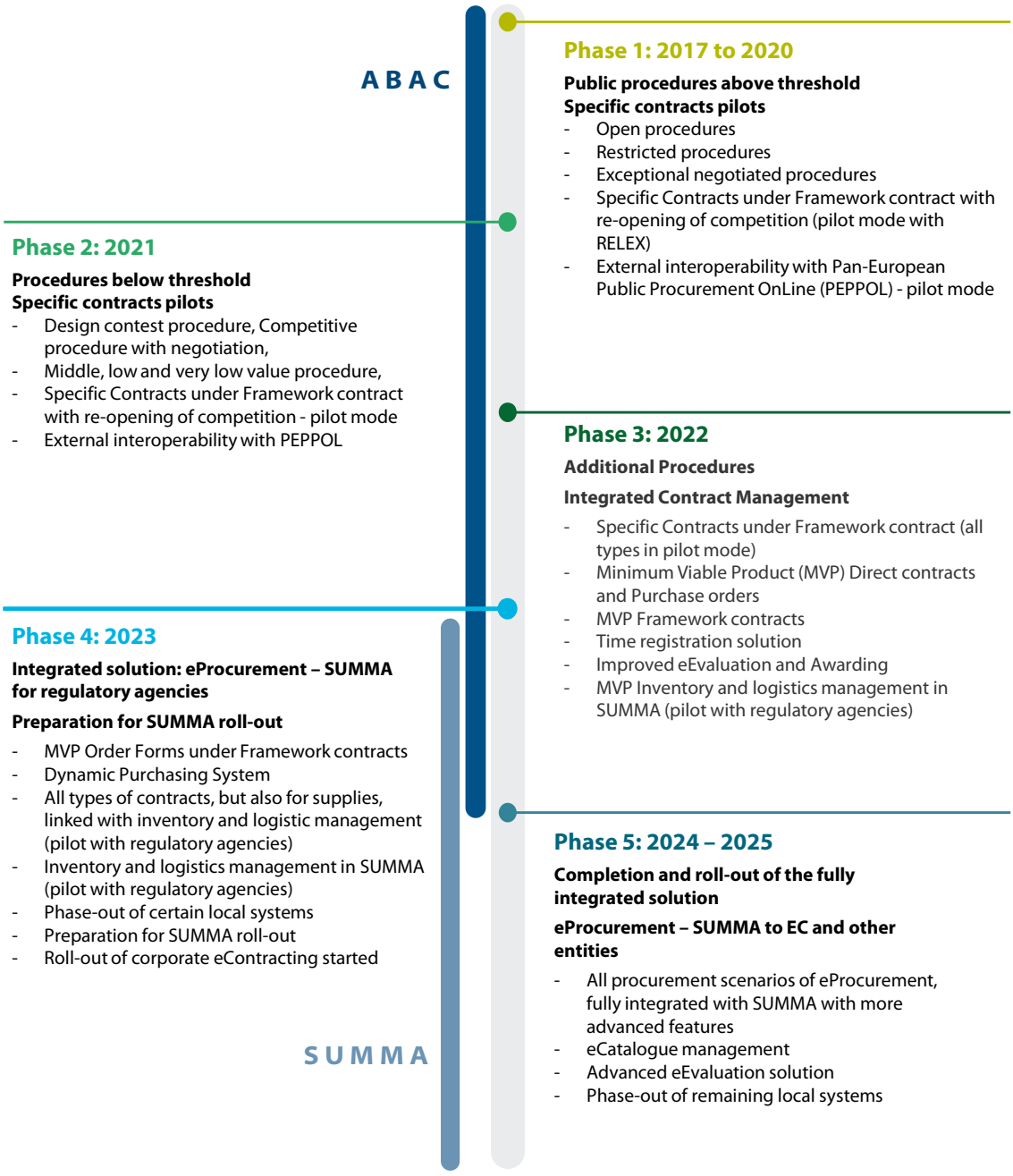
Figure 9 – Architecture of eProcurement



Source: ECA, based on Commission information.

41 The purpose of eProcurement is to cover the whole procurement process, including the launching of calls for tender, to which end it relies on a series of embedded checks and other automated functions. For example, the tool checks that all necessary documents have been submitted (e.g. a declaration of honour, financial offer), that the estimated budget is compatible with the chosen procurement procedure and legal basis, and that the proposals are received timely. Tenders are advertised automatically on Tenders Electronic Daily (TED) and through the F&T Portal, which are interconnected. The Commission estimates that eProcurement will bring human resources savings, as well as reductions in lower maintenance and support costs of about €5 million once current systems have been decommissioned. ***Figure 10*** shows the latest roll-out plan for eProcurement.

Figure 10 – eProcurement roll-out



Source: ECA, based on Commission information.

42 eProcurement is not yet fully operational for all phases. So far, the pre-award eProcurement modules (ePreparation, and eSubmission & eEvaluation) have been rolled out to all Commission departments and executive agencies, and is on-going for other EU institutions, bodies and agencies. Use of these rolled-out modules has been obligatory for the most commonly used procurement procedures since 1 May 2022. In the post-award phase, Commission departments use a wide variety of IT tools to monitor deliverables and the uptake of contracts. Some are still tied to the eProcurement legacy system, which comprises ABAC Assets, eRequest, eOrdering,

eFullfilment and eInvoicing. Others (such as DG International Partnerships, DG Informatics and the Joint Research Centre) use their own local systems. Some departments still handle some of their procurement procedures without the use of specific IT systems. Finally, some departments use a combination of the above, depending on the type or date of each procedure. Roll-out of the corporate eContracting solution in the Commission and executive agencies started in 2023.

43 Even if a good deal of data is structured and shared electronically through the F&T Portal, some of it is unstructured (e.g. declarations on honour, financial bids). Data of this kind is not easily machine-readable. Our survey showed that paper documents are sometimes sent, either alone or in parallel with electronic documents. Tenderers do not make extensive use of electronic signatures. The Commission's contractors have the choice of sending invoices in a traditional form, e.g. by email, or in electronic format (e-invoices), which is easier and cheaper to process than paper invoices. Within the Commission, there is significant variation in the use of e-invoicing. Among the departments covered by this review, the uptake of e-invoicing ranged from less than 20 % to over 90 % of all invoices received in 2021. The Commission expects considerable improvements in regard to structured data and the use of e-signatures once eProcurement is rolled out throughout the institution.

Opportunities, challenges and audit implications of the digitalisation of direct and indirect management

44 Digitalisation may improve the direct and indirect management of EU funds in the following ways:

- wider use of emerging technologies in the management of grants and procurement;
- establishment of a corporate IT system for all indirect management to further streamline business processes and reduce administrative burden;
- greater interoperability between the Commission systems and databases and national ones.

45 However, digitalisation in these management modes presents the Commission with certain challenges:

- how to ensure adequate financial and human resources to complete the on-going flagship IT projects on schedule;
- how to reduce differences in the state of digitalisation at beneficiaries and entrusted entities (regarding IT systems and data relevant for the management of EU funds), so the Commission systems can make better use of it;
- how to decrease the volume of management tasks handled outside IT systems, and thus ensure a transparent, efficient and harmonized approach in each area of funding, such as the RRF or procurement.

46 Audit may benefit from access to the Commission's IT systems by increasing the scope for automation. For example, eGrants facilitates the sampling of beneficiaries and enables specific checks, such as verifications of payment delay and co-financing rates. However, large-scale testing is not yet possible. There are two main reasons for this:

- The IT systems used to manage EU funds do not store all the evidence needed for audit testing. For example, accounting evidence (paragraphs ***32***, ***36*** and ***43***) is only available in beneficiaries' own systems, therefore not suitable for applying any emerging technologies such as artificial intelligence, robotic process automation or big data analytics. The evidence may also be in an unstructured form (e.g. documents proving the eligibility of beneficiaries, final accounts).
- The Commission uses a variety of IT systems to manage grants and procurement (***Figure 6***). For some procedures no specific IT management system is used (e.g. for RRF payments the Commission relies on ABAC). As many such systems are to be phased out and replaced by corporate IT tools, there may be little cost-benefit in developing digital audit techniques for them to apply big data analysis and a more unified audit approach.

The Commission has digitalised its procedures under shared management, but the degree of digitalisation varies at national level

47 The EU's two largest spending areas, accounting for more than two thirds of its total budget, are the common agricultural policy (CAP) and cohesion policy. In shared management, both the Commission and national authorities in member states share responsibility for running specific funds. Member states are responsible for developing and maintaining their own IT systems for the management of EU funds, and the Commission relies on those member state systems it deems to be sound.

Digitalisation of the Commission's payments to member states is in place

48 The national authorities responsible for implementing shared management funds are required to submit data to the Commission, including their payment requests, declarations of expenditure and assurance packages, through the System for Fund Management in the European Union (SFC)[19]. The Commission and member states have used the SFC for official exchanges of information in relation to nearly all funding instruments since 2000. The only exception has been for the European agricultural guarantee fund (EAGF), where member states' paying agencies have used e-AGREX for submitting declarations of expenditure. Since the beginning of 2023, the SFC has been a "one-stop shop" for submitting and transferring data on all CAP and cohesion funds.

49 Most data in the SFC is structured, whether payment requests, declarations of expenditure and assurance packages. However, even documents in a pre-defined format can include unstructured attachments (e.g. pdf files). The SFC uses embedded quality controls to check the form and content of data files, leading it, for example, to reject incomplete assurance packages. Data available in SFC consists of aggregated information on payments that member states' authorities made to beneficiaries of EU funds.

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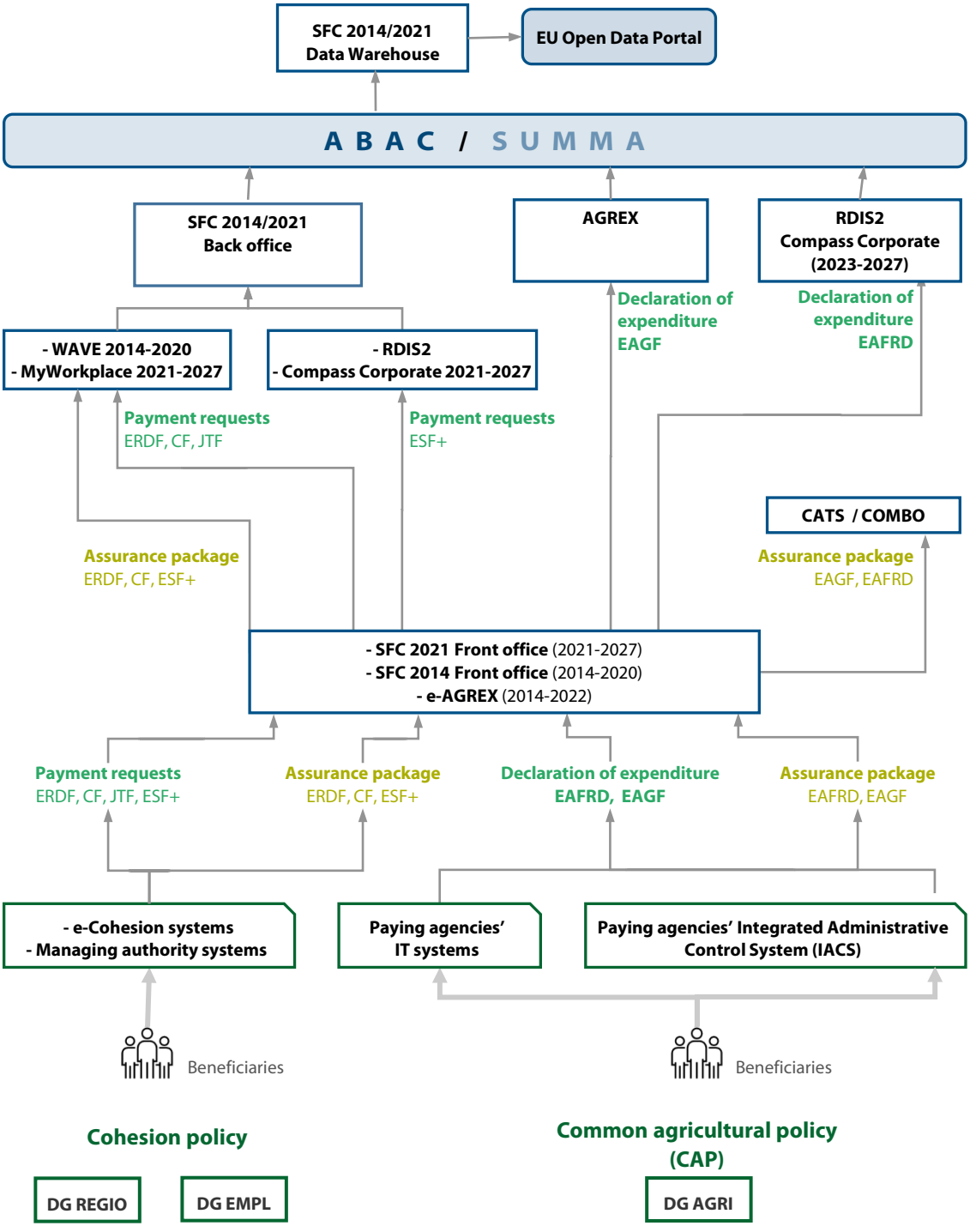
[19] Article 69(9) and Annex XV of Regulation (EU) 2021/1060.

50 Even though all data transits through the SFC, the Commission uses a range of IT systems for processing payment requests, declarations of expenditure and assurance packages, depending not only on policy area (cohesion or the CAP), but also on the funding programme and programming period to which they belong (***Figure 11***). The IT systems use a number of automatic checks during these processes, but some manual ones persist (e.g. for rural development). Payments are calculated automatically, and the IT systems cross-check data with ABAC.

Figure 11 – Broad range of IT systems and data flows for payments and assurance packages in cohesion and the CAP



Source: ECA, based on Commission information.

Degree of digitalisation of member states' payments to beneficiaries differs between EU funds

Member states continue to exchange some data with cohesion beneficiaries outside the available IT systems

51 In 2014, the Commission launched the e-Cohesion initiative to help reduce the administrative burden for beneficiaries and member state authorities dealing with cohesion policy programmes. The rules[20] state, that member states must provide beneficiaries with systems that allow (but do not require) all information to be exchanged electronically. Member states then use their systems to prepare and submit payment requests and assurance packages to the Commission.

52 All member states have at least one e-Cohesion system. Based on a recent evaluation[21], there are 108 in total: 75 systems for national/regional programmes, 22 for Interreg programmes, and 11 for both. Some countries take a decentralised approach, with a separate system for each region or programme. Overall, the e-Cohesion systems in member states have many common features, such as pre-filling of forms based on information received from beneficiaries, but also some dissimilarities, such as interoperability with other IT systems and databases (***Annex I***).

53 Most e-Cohesion systems cover key processes at the project application and implementation stages. The evaluation showed that some data is still exchanged with beneficiaries in parallel outside the systems, in particular for contract management, verifications and on-the-spot checks, and less extensively for progress reports and payment claims (***Annex II***).

54 Member states have a large variety of databases with information relevant to the management and control of EU funding, such as business registers, insolvency registers, ultimate beneficial owner registers, and tax and social security databases. Some of these are linked to an e-Cohesion system (***Annex I***). According to the European Economic and Social Committee, improved interoperability between e-Cohesion systems and other national databases "must become a key concern"[22] as it

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[20] Article 122(3) of Regulation (EU) No 1303/2013 and Article 69(8) and Annex XIV of Regulation (EU) 2021/1060.

[21] Commission report on the evaluation of e-Cohesion 2014-2020

[22] European Economic and Social Committee report on evaluation of the implementation of e-Cohesion, ECO/547-EESC-2021.

can help managing authorities increase their efficiency by reducing administrative burden and simplifying procedures[23]. ***Box 3*** provides examples of good practice.

Box 3

Examples of interoperability between e-Cohesion systems and other national databases

Interoperability is high in **Czechia, Estonia** and **Hungary**, where the e-Cohesion systems are linked to national records, such as electronic procurement systems, tax registers, business registers and managing authorities' accounting systems.

Most of the 32 systems in **Italy** are linked to at least one national register (e.g. the business register).

Source: ECA, based on Commission report on the evaluation of e-Cohesion 2014-2020.

Degree of digitalisation is high for area and animal-related payments in agriculture, less so for rural development

55 Area and animal-related measures financed from the CAP are implemented in member states through integrated administration and control systems (IACS) of each accredited paying agency (76 in member states in the 2021 financial year[24]). These consist of interconnected databases[25] that are used to receive and process aid applications and related data. Use of IACS means that support is managed to farmers in a standard way in all member states. It covers the whole process from online aid application to payments. Member states use the data in IACS to prepare their declarations of expenditure and assurance packages.

[23] Commission report on the evaluation of e-Cohesion 2014-2020

[24] 2021 annual activity report of DG Agriculture and Rural Development, p. 37.

[25] Chapter II of Regulation (EU) No 1306/2013.

56 Paying agencies must use a land parcel identification system and a geospatial aid application to enhance their checks of area-based aid applications. In addition, under legislative changes introduced by the Commission in 2018[26], member states could replace on-the-spot checks by "checks by monitoring" between 2018 and 2022, using Copernicus Sentinel data to compare the situation on the ground against the eligibility conditions for the aid claimed by farmers. By applying tools like machine learning and other algorithms in the automated analysis for processing large quantities of data, checks by monitoring allows paying agencies to monitor agricultural activity on all declared parcels for a given aid scheme. In 2022, paying agencies in 12 member states[27] used checks by monitoring for several schemes under the EAGF. In 2023, the Area Monitoring System using satellite data was made mandatory[28] to cater for the new model of the CAP based on performance.

57 Rural development measures vary significantly, for example, from investments and training to cooperation development. Such rural development measures are managed outside IACS. Unlike measures in IACS, digitalisation by member states of rural development management processes varies. There is no publicly available information giving an overview of the use of IT tools, nor does the Commission have such an overview. ***Box 4*** contains examples to illustrate the state of digitalisation in some member states' management of EU rural development spending.

[26] Article 40a of Regulation (EU) No 809/2014.

[27] Based on 2021 annual report, paragraph 6.30 and additional information received from the Commission for 2022 - Belgium, Croatia, Denmark, Germany, Ireland, Italy, Cyprus, Latvia, Malta, Spain, Greece and Portugal.

[28] Article 70 of Regulation (EU) 2021/2116.

Box 4

Examples of national arrangements for the management of rural development spending outside IACS

In Germany (Schleswig-Holstein), grant applications are sent by post. There is an IT tool for documenting the process of administrative checks, but it has no links to other systems or national registers. The results of administrative checks are sent by post. All information required during the implementation of a project (payment requests, progress reports, payment decisions) are also sent by post. Data on project indicators is stored in the system. There are plans to put an online application for rural development investment measures in production at the very end of 2023.

In Lithuania, grant applications are submitted by email or through an IT system of the paying agency by filling in an electronic form (with electronic signature). A separate IT system is used for administrative checks, which mostly uses automated questions. This system connects with other national registers: the State Tax Inspectorate, the State Social Insurance Fund and the Agricultural Information and Rural Business Centre. The results of administrative checks are signed electronically, but then sent by email or post. Submitted payment data is structured, whereas data on project indicators is sent in pdf files.

In Finland, grant applications and information relevant to implementation (payment requests, progress reports and data on project indicators) can be sent by post or submitted through the paying agency's IT system for administrative checks. The system currently carries out no automatic checks. However, it has links to national registers. Beneficiaries are informed about the results of administrative checks and payment decisions through the same channels. Decisions on administrative checks are signed electronically.

Source: ECA, based on information from the member states' paying agencies.

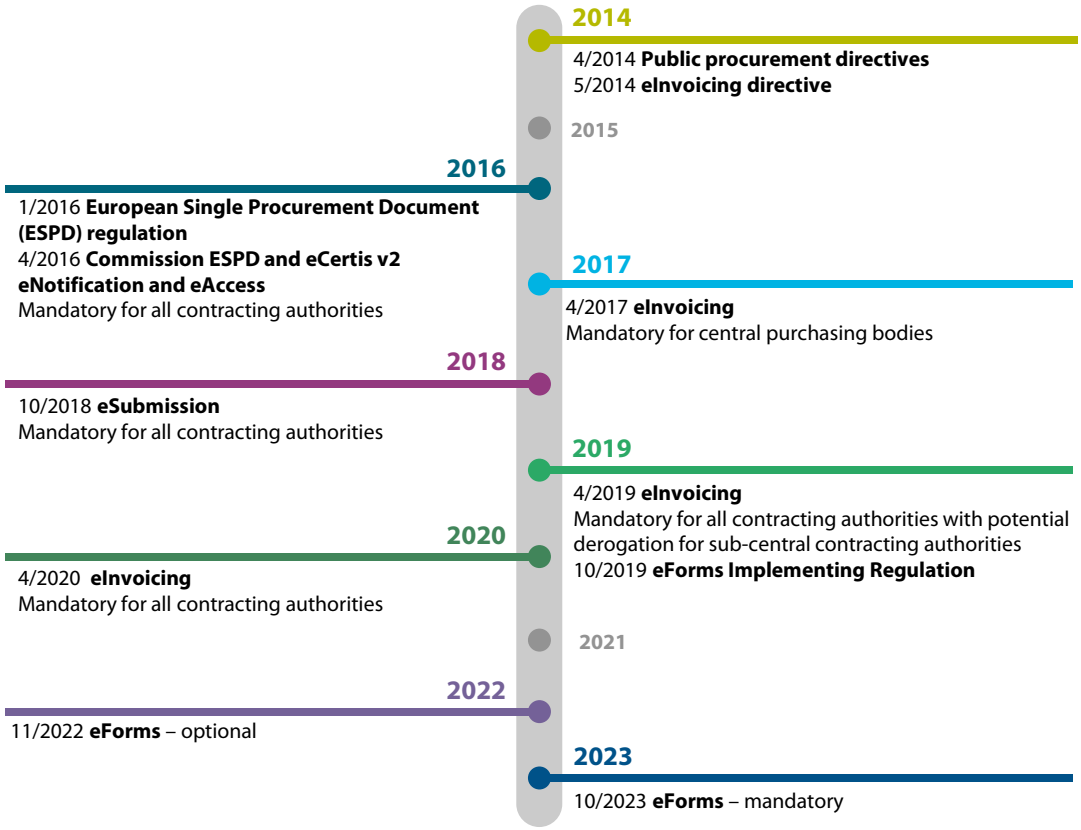
Member states' uptake of electronic procurement has been uneven

58 Public procurement is becoming increasingly digital. EU legislation requires contracting authorities to use certain electronic tools, such as eInvoicing, for communication and transaction processing. Contracting authorities may use their own IT systems to manage procurement. According to the Commission[29], electronic procurement can make public contracting simpler and cheaper for both contracting

[29] Website of DG Internal Market, Industry, Entrepreneurship and SMEs

authorities and businesses. It also increases transparency and provides easier access to tender opportunities, which should result in more tenderers and more advantageous prices. ***Figure 12*** shows the timeline of key developments in electronic procurement.

Figure 12 – Key EU legislative developments in electronic procurement



Source: ECA, based on Commission information.

59 The tools made available by the Commission mainly relate to the pre-award phase of procurement. For contracting authorities, use of the TED online portal (see paragraph ***41***) to publish procurement opportunities is optional for contracts up to a certain amount and mandatory beyond that amount. TED also features the eNotices tool to help contracting authorities prepare and send procurement notices for publication, while e-Tendering (soon to be replaced by the F&T Portal) gives access to procurement documents of the EU institutions, agencies and bodies. The eSubmission tool, not linked to TED, assists businesses in the submission of tenders in response to procurement notices.

60 To overcome cross-border differences, the Commission offers the eCertis online tool free of charge. eCertis contains information from national authorities to help in identifying equivalents of certificates and attestations delivered in different jurisdictions.

61 Many other electronic procurement tools are available in member states. In general, more capabilities are available before contracts are awarded than in the post-award phase. ***Annex III*** gives an overview of the presence of key electronic procurement capabilities in each member state as of mid-2021.

62 All contracting authorities concerned must be able to receive and process e-invoices compliant with the EU standard for e-invoicing for procurement above certain thresholds[30]. Therefore, bidders can, but are not obliged to, send invoices in electronic format. Although member states are required to apply the EU standard in their IT solutions, they have different electronic invoicing tools. Many countries have established their own national platforms for managing e-invoices, while others use decentralised models. Some have incorporated Pan-European Public Procurement Online (PEPPOL), which is a common standard used by a significant number of member states, into their e-invoicing systems[31].

63 eForms, which are currently optional, but will be mandatory from October 2023[32], provide new standard forms for the publication of procurement notices. The Commission considers that eForms can enhance data analysis by utilizing a common standard and terminology, placing the tool "at the core of the digital transformation of public procurement in the EU"[33].

64 To automate the process, eForms need to obtain data from the other phases of electronic procurement. For example, eForms contain information on selection criteria and any grounds for exclusion, which can be found in the European Single Procurement Document and might require the two to be linked. Similarly, linking eForms to e-invoicing could make it possible to compare contracted and paid amounts – and making eForms interoperable with, for example, business registers could reduce administrative burden and improve data quality[34].

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30 Directive 2014/55/EU on electronic invoicing in public procurement

31 eInvoicing country factsheets available at Commission website.

32 Implementing Regulation (EU) 2019/1780, amended by Implementing Regulation 2022/2303.

33 Website of DG Internal Market, Industry, Entrepreneurship and SMEs

34 Commission "eForms Policy Implementation Handbook".

Opportunities, challenges and audit implications of the digitalisation of shared management

65 In shared management, the Commission is reliant on the systems put in place by member states. Digitalisation of the shared management approach offers a number of opportunities, such as:

- greater standardisation among national IT systems, such as e-Cohesion systems, and the positive impact of common definitions of concepts, data fields and forms on the machine-readability of data;
- the more extensive use of emerging technologies by all member states and for a wider range of measures under the CAP;
- more comprehensive use by member states of electronic procurement capabilities, such as eForms;
- increased interoperability of managing authorities' IT systems and databases with other national systems;
- more efficient and systematic data-sharing on the beneficiaries of EU spending among all entities involved in the management of EU funds.

66 However, the digitalisation also brings challenges for both the Commission and member states:

- how to narrow the gap between member states in the level of digitalisation of their IT systems and data on the beneficiaries of EU spending;
- how to reduce administrative, legal, technical and organisational barriers to the interoperability of IT databases at national and EU level.

67 Regarding the audit implications, large-scale testing and comprehensive analysis are still out of reach. This is mainly because:

- information is exchanged extensively outside member states' systems, for example in the area of e-Cohesion;
- the digitalisation and standardisation of IT tools and data governance are not equally advanced in member states (e.g. for rural development and electronic procurement).

68 However, new digital audit tools and techniques (process mining, visual analytics and big data analytics) have already made it possible for us to test the quality and coherence of CAP control statistics and payment data at some paying agencies[35].

[35] 2021 annual report, paragraphs 6.36 and 6.37.

IT tools help to enhance the transparency and protection of EU spending

Many systems are used to report on transparency

69 To meet the requirement for transparency in EU spending, the Commission publishes information on the contractors and beneficiaries of funding from directly[36] and indirectly managed programmes through an online portal, the Financial Transparency System (FTS). Based on ABAC data and updated annually, the FTS discloses information on the award of grants and contracts - such as the identity of contractors or beneficiaries, the purpose of spending and the amounts involved. However, it does not publish information on all contractors and beneficiaries, such as in case of very low-value contracts or grants, and final recipients from funding under indirect management. It also excludes information on the ultimate beneficial owners. The Commission has proposed extending the FTS to beneficiaries of EU funding in all management modes, after 2027. In our recent opinion, we highlighted some inconsistencies in the definition of beneficiaries, which excludes some types of beneficiaries in case of shared management, particularly for financial instruments.

70 The EU legislation[37] requires national authorities to maintain lists of operations (unless of low value), including information on beneficiaries and contractors. The data format should permit the sorting, searching, extraction and comparison of data. Lists of operations must be accessible through a website or a single portal. In the 2014-2020 programming period, it was mandatory to update lists of operations at least every six months, and for the current period the frequency is at least every four months. There is currently no legal requirement to disclose information on ultimate beneficial owners to the public which is in line with a recent judgment of the European Court of Justice[38]. Moreover, there is no EU unique identifier for a given company or person to facilitate the matching records from different datasets and registers.

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[36] Article 38 of Regulation (EU) 2018/1046.

[37] Article 115(2) and Annex XII(1) of Regulation (EU) No 1303/2013; Articles 49(3) and (4) of Regulation (EU) 2021/1060.

[38] Judgment of 22 November 2022 in joined cases C-37/20 and C-601/20

71 There are different rules regarding the manner in which information is to be disclosed in these lists. See ***Box 5*** for some examples:

Box 5

Examples of different rules for disclosure of information on beneficiaries of the CAP and cohesion funding

The timeframe for public disclosure is not the same for the CAP (two years) and cohesion spending (no timeframe).

Prior to 2021 (for cohesion), and 2023 (for CAP), information is disclosed in different formats; for the new programming period, member states are obliged[39] to publish the transparency data on beneficiaries in machine-readable formats for both the CAP and cohesion spending.

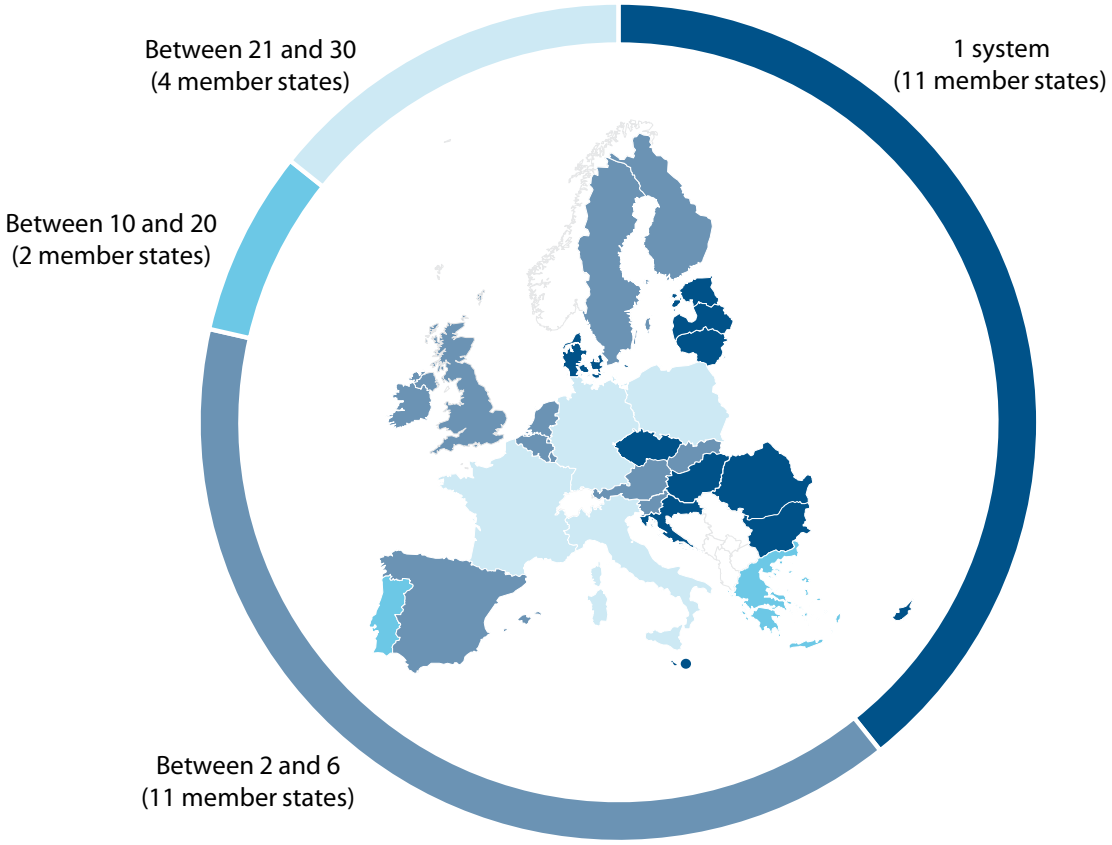
Source: ECA, based on the EU legislation.

72 At present, information on contractors and beneficiaries is scattered among some 300 national, regional and inter-regional reporting systems – 27 for the CAP and 260 for cohesion spending[40]. ***Figure 13*** shows the geographical distribution of cohesion reporting systems.

[39] Article 49 (4) of Regulation (EU) 2021/1060; Article 98 of Regulation (EU) 2021/2116.

[40] European Parliament study "The Largest 50 Beneficiaries in each EU Member State of CAP and Cohesion Funds".

Figure 13 – Number of reporting systems for cohesion spending in member states



Source: ECA, based on the European Parliament study "The Largest 50 Beneficiaries in each EU Member State of CAP and Cohesion Funds".

73 The Kohesio[41] platform is a public online tool launched by the Commission in March 2022 to give citizens an overview of projects financed by the EU. The platform provides data on beneficiaries and projects co-financed in the 2014-2020 programming period and will be progressively enriched by projects in 2021-2027. Kohesio usefully compiles lists of operations that the managing authorities in all member states are required to publish.

[41] Commission website on Kohesio

IT tools to protect EU spending are not used evenly in all three management modes

74 It was to enhance protection of the EU's financial interests[42] that the Commission set up the Early Detection and Exclusion System (EDES) in 2016. EDES prevents unreliable persons or entities from participating in award procedures funded by the EU budget or implementing EU funds. It feeds information on excluded counterparties to ABAC so that new commitments and relevant payments can be blocked if necessary. At present, EDES covers direct and indirect management. In our report on EDES, we recommended extending its use to shared management. The Commission took up this recommendation in its proposal for a Financial Regulation (recast). In our opinion on that proposal, we welcomed the amendment but noted that the scope for excluding untrustworthy counterparties would remain greater under direct than shared management.

75 Member states must report[43] to the Commission any irregularities, suspicions or findings of fraud they identify in EU spending, using the Irregularity Management System (IMS). In our report on conflict of interest in EU cohesion and agricultural spending, we reiterated our conclusion that data and information recorded in the IMS varied between member states. We also indicated, in our report on EDES, that the Commission could make better use of IMS data for exclusion purposes in direct management - after first consulting member states and other countries to which the data belongs[44].

76 The Commission has developed Arachne, a single integrated data-mining and risk-scoring tool, to access and analyse data relevant to the management of EU funds. Using data obtained from national authorities (who opted to use the tool) and two commercial databases, Arachne calculates a list of risk indicators covering, for example, contractors, sub-contractors and beneficiaries. This enables users to assess those risks and, if necessary, investigate further before taking a decision on funding. According to the Commission[45], Arachne may increase the efficiency and effectiveness of national verifications by steering resources towards checks on more risky contractors, beneficiaries and projects. The Commission sees possibilities for

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[42] Article 135 of Regulation (EU) 2018/1046.

[43] Regulations on specific EU funds

[44] Article 144 of Regulation (EU) 2018/1046.

[45] Commission website on Arachne risk-scoring tool.

enhancing Arachne by means of more interoperability and emerging technologies, such as more advanced algorithms based on artificial intelligence.

77 Staff in the audit directorates of five Commission departments currently have access to Arachne[46]. It is also available free of charge to interested national authorities. The Commission informed us that at present 20 member state authorities are using it to manage cohesion funds (at least one programme), nine are either using or testing it for agriculture and 19 are doing the same for the RRF. In its proposal for a Financial Regulation (recast), the Commission suggested making it compulsory for member states to use Arachne after 2027 for all expenditure management modes. In our opinion, we advised the Commission to bring forward this obligation to the 2021-2027 programming period.

Opportunities, challenges and audit implications of development of IT tools to improve transparency and protect the EU's financial interests

78 The further digitalisation of IT tools focusing on transparency and protection of the EU budget could bring a number of opportunities, such as:

- greater interoperability between the tools, such as Arachne with other Commission's systems;
- a single database for all management modes to enhance transparency about contractors and beneficiaries;
- extending the scope of EDES to cover all management modes and all contractors and beneficiaries of EU spending;
- making better use for direct management of the information which member states report in the IMS on irregularities and fraud;
- institutionalising Arachne as the Commission's risk-scoring and data-mining tool for all departments, and making its use widespread by the member state authorities.

[46] DG Regional and Urban Policy, DG Employment, Social Affairs and Inclusion, DG Agriculture and Rural Development, DG Economic and Financial Affairs, DG Maritime Affairs and Fisheries.

79 However, an important challenge to improve the transparency and protection of the EU budget is the introduction of a unique identifier for searches of contractors and beneficiaries of EU funds across the tools and systems.

80 Owing to the fragmentary nature of reporting, with details held in a variety of IT databases and portals characterised by different legal requirements and technical set-ups, and lack of a unique identifier, it is difficult to obtain comprehensive information on contractors and beneficiaries of EU budget. In addition, Arachne does not contain information on all the contractors and beneficiaries, as its use by national authorities, hence the provision of such data, is voluntary. This makes data difficult to compare, and holds back benefitting fully from the use of emerging technologies, e.g. artificial intelligence and big data sets, not only for monitoring and controlling of EU spending, but also for auditing[47].

[47] European Parliamentary Research Service study: "Digitalisation of European reporting, monitoring and audit", p. 36.

Concluding remarks

81 Digitalisation has been a Commission priority for many years. With the aim of improving efficiency and reducing administrative workload, the Commission has made progress on digitalising its activities, including the way it manages EU funds. However, it has yet to achieve its ultimate goal of becoming a truly digital administration.

82 The Commission has implemented a number of projects to simplify its complex IT landscape and improve its management processes. These include the platform to facilitate the flow of data to its IT systems from beneficiaries of EU grants and contractors. The Commission has also taken steps to replace its financial management system with more recent technology, make other IT systems available throughout the institution, and phase out redundant local systems. However, these developments have faced significant delays and budget overruns.

83 In the area of direct and indirect management, digitalisation is most advanced for managing grants, for which eGrants, the Commission's corporate system, is used. However, for the management of procurement, and for grants which are indirectly managed outside of eGrants, digitalisation is lagging behind because necessary IT projects are still being developed.

84 In the area of shared management, while the Commission has digitalised its systems for making payments to member states and digitalisation is also used extensively for area-based payments in agriculture, member states use a range of different IT tools to manage cohesion and rural development funding. Because these tools are generally not integrated with the EU systems (which is not required by the current EU legislation), there is no efficient means of exchanging useful information on the beneficiaries of EU funds. Moreover, the uptake of electronic procurement has been uneven in the member states.

85 To meet the transparency requirements for EU spending, the Commission uses an online portal to publish information on contractors and beneficiaries of EU funding from the programmes it manages under direct and indirect management. However, it does not publish information either on the ultimate beneficial owners, or on the final recipients of funds under indirect management (which is not required by the current Financial Regulation). Member states' transparency reporting on contractors and beneficiaries of cohesion and agricultural spending is highly fragmented.

86 To enhance protection of the EU budget, the Commission has developed Arachne, a single data-mining and risk-scoring tool, which all national authorities can use to check funding under shared management. However, the use of Arachne is not compulsory, so it is not universally applied. Meanwhile, the Commission's system for excluding counterparties that are prohibited from receiving EU funding, does not currently cover shared management spending.

87 The Commission has proposed extending its system for excluding counterparties and its transparency arrangements to EU funding in all management modes, and making the use of Arachne compulsory for member states. Regarding both the transparency arrangements as well as Arachne, the Commission has proposed that these extensions do not take effect until the next programming period, which is due to start in 2028.

88 Efforts by the Commission and member states to digitalise the management of EU funds have the potential to increase the efficiency of audit. Examples of current benefits of digitalisation include the automated extraction of documents from Commission systems, and the use of digital tools to check the quality and coherence of control statistics and payment data reported by a sample of paying agencies in the area of agriculture. However, it is not yet possible to carry out large-scale testing on the entire EU budget spending, or even on a given policy area. Nor does it allow audit to benefit from a wider use of emerging technologies, such as artificial intelligence, robotic process automation or big data analytics.

This review was adopted by Chamber V, headed by Mr Jan Gregor, Member of the Court of Auditors, in Luxembourg at its meeting of 13 June 2023.

For the Court of Auditors

Tony Murphy
President

Annexes

Annex I – Main characteristics of e-Cohesion systems in member states

Country	Systems	SFC (a)	NR (b)	E-sign (c)	Once-only (d)	Pre-filling (e)	User friendly (f)	PA (g)	PI (h)
Bulgaria	1	●	●	●	●	●	●	●	●
Czechia	1	●	●	●	●	●	●	●	●
Denmark	1	●	●	●	●	●	●	●	●
Estonia	1	●	●	●	●	●	●	●	●
Ireland	1	○	○	●	●	●	●	●	●
Croatia	1	●	●	●	●	●	●	●	●
Cyprus	1	●	●	●	●	●	●	●	●
Latvia	1	●	●	●	●	●	●	●	●
Lithuania	1	●	●	●	●	●	●	●	●
Luxembourg	1	●	●	●	●	○	●	●	●
Hungary	1	●	●	●	●	●	●	●	●
Malta	1	●	●	●	●	●	●	●	●
Netherlands	1	○	○	●	●	●	●	●	●
Portugal	1	●	●	●	●	●	●	●	●
Romania	1	●	●	●	●	●	●	●	●
Slovakia	1	●	●	●	●	●	●	●	●
Slovenia	1	●	●	●	●	●	●	●	●
Finland	1	●	●	●	●	●	●	●	●
Belgium	2	●1	●	●1	●	●	●1	●1	●1
Greece	2	●1	●1	●1	●1	●1	●1	●1	●1
France	2	●1	○	●1	●1	●1	●1	●1	●1
Austria	2	●	○	●	●	●	●	●	●
Poland	2	●1	●1	●1	●1	●1	●1	●1	●1
Sweden	2	●1	●1	●1	●1	●1	●1	●1	●1
Spain	9	●1	●1	◐	●1	●1	◐	◐	◐
Germany	15	●1	○	●	◐	◐	◐	●2	●2
Italy	32	●8	◐	●	◐	●	●	◐	◐
INTERREG Systems	22	●	○	◐	◐	◐	◐	●18	●18

● Yes ◐ Most of them ● No ○ Not mentioned or not known

Note: Symbols with no number apply to all systems in a member state. The number after a symbol indicates how many systems have a given characteristic. There is no information on the remaining systems.

(a) e-Cohesion is integrated with SFC
(b) e-Cohesion is linked to one or more national registers
(c) e-Cohesion supports the use of e-signatures
(d) e-Cohesion supports once-only encoding
(e) e-Cohesion supports pre-filling of information based on data entered in project applications
(f) e-Cohesion supports user-friendliness functions
(g) e-Cohesion supports operations during project application stage
(h) e-Cohesion supports operations during project implementation

Source: ECA, based on Annex 2 of Commission report on the evaluation of e-Cohesion 2014-2020.

Annex II – Parallel data exchange with beneficiaries outside e-Cohesion systems

	Type of information			
Country	Contracts	Progress Report	Payment Claims	Verifications/ on-the-spot checks
Belgium	🔴	🟡	🟡	🔴
Czechia	🔵	🔵	🔵	🟡
Estonia	🔵	🔵	🔵	🟡
Greece	🔴	🟡	🟡	🔴
France	🔴	🔴	🟡	🔴
Croatia	🔴	🔵	🔵	🟡
Italy	🟡	🟡	🟡	🟡
Latvia	🔴	🟡	🔵	🔴
Lithuania	🟡	🔵	🔵	🔵
Hungary	🔴	🟡	🔵	🔴
Netherlands	🟡	🟡	🔵	🔴
Poland	🔴	🔵	🔵	🔴
Portugal	🔴	🟡	🔵	🔴
Romania	🟡	🟡	🟡	🔴
Slovenia	🔴	🟡	🔵	🟡
Slovakia	🔴	🔴	🔴	🔴
Finland	🔵	🔵	🔵	🟡
Sweden	🔴	🟡	🟡	🔴

🔵 Limited 🟡 Moderate 🔴 Extensive

Note: No data is available for Bulgaria, Denmark, Germany, Ireland, Spain, Cyprus, Luxembourg, Malta and Austria.

Source: ECA, based on Annex 2 of Commission report on the evaluation of e-Cohesion 2014-2020.

Annex III – Key electronic procurement capabilities in member states

	Pre-award phase					Post-award phase			
	Centralised public procurement portal	Notices are sent to TED	Availability of the ESPD service	Electronic submission of bids	National services linked to eCertis	Users can order goods or services electronically	eInvoicing available	Transfer of eInvoices to payment systems	Mandatory eOrdering for goods or services
Belgium	●	●	●	●	●	●	●	●	(*)
Bulgaria	●	●	●	●	●	●	●	●	●
Czechia	●	●	●	●	●	●	●	●	●
Denmark	●	●	●	●	●	●	●	●	●
Germany	●	●	●	●	●	●	●	●	●
Estonia	●	●	●	●	(*)	●	●	●	●
Ireland	●	●	●	●	●	●	●	●	●
Greece	●	●	●	●	●	●	●	●	●
Spain	●	●	●	●	●	●	●	●	(*)
France	●	●	●	●	●	●	●	●	●
Croatia	●	●	●	●	●	●	●	●	●
Italy	●	●	●	●	●	●	●	●	●
Cyprus	●	●	●	●	●	●	●	●	●
Latvia	●	●	●	●	●	●	●	●	(*)
Lithuania	●	●	●	●	●	●	●	●	●
Luxembourg	●	●	●	●	●	●	●	●	●
Hungary	●	●	●	●	●	●	●	●	(*)
Malta	●	●	●	●	●	●	●	●	●
Netherlands	●	●	●	●	●	●	●	●	●
Austria	●	●	●	●	●	●	●	●	●
Poland	●	●	●	●	●	●	●	●	●
Portugal	●	●	●	●	●	●	●	●	●
Romania	●	●	●	●	●	●	●	●	●
Slovenia	●	●	●	●	●	●	●	●	(*)
Slovakia	●	●	●	●	●	●	●	●	●
Finland	●	●	●	●	●	●	●	●	●
Sweden	●	●	●	●	●	●	●	●	(*)

(*) Obligatory at a central, but not regional level.

Member states have at least one IT tool that offers a given e-procurement capability – although this may not cover the whole country and/or be obligatory for procedures below the EU threshold.

Legend: ● No ● Ongoing ● Yes ● Unknown

Source: ECA, based on Commission overview following a series of workshops with member state authorities and publicly available information.

Abbreviations

ABAC: Accrual Based Accounting System

ARES: Advanced Records System (EC's corporate tool for document management)

AUDEX: External audit management tool

CAP: Common agricultural policy

CATS: Clearance Audit Trail System

CeSaR: Country specific recommendations database

CORDA: Common Research Data Warehouse

CRIS: Common External Relations Information System

DG: Directorate-General

EAFRD: European Agricultural Fund for Rural Development

EAGF: European Agricultural Guarantee Fund

EDES: Early Detection and Exclusion System

ESPD: European single procurement document

F&T Portal: Funding and Tenders Portal

FTS: Financial Transparency System

GPSB: Grants and Procurement Steering Board

IACS: Integrated Administration and Control System

IMS: Irregularity Management System

MAP: Multi-Annual Programming tool

NGEU: NextGenerationEU

PEPPOL: Pan-European Public Procurement Online

RRF: Recovery and Resilience Facility

SEDIA: Single electronic data interchange area

SFC: System for Fund Management in the European Union

SyGMa: System for Grant Management

TED: Tenders Electronic Daily

Glossary

Analytics: Systematic use of computational methods for analysis.

Artificial intelligence: Using computers to simulate human intelligence through capabilities such as learning and problem-solving.

Assurance package: Set of documents that each member state submits to the Commission yearly in respect of the European Structural and Investment Funds, comprising the annual accounts, summary, control report, management declaration and audit opinion.

Beneficiary: Natural or legal person receiving a grant or loan from the EU budget.

Big data: Sets of data from diverse sources that are too large to be processed by conventional data-processing methods.

Checks by monitoring: Systematic observation, tracking and assessment of eligibility criteria and obligations using satellite data as an alternative to physical inspection.

Copernicus: The EU's Earth observation and monitoring system, which collects and processes data from satellites and Earth-based sensors to provide environmental and security information.

Data mining: Process of analysing large datasets to find information in the form of patterns and trends.

Database: Structured set of data stored electronically and available for consultation and extraction.

Dataset: Any organised collection of data.

e-invoicing: The issuing, transmitting, receiving, and automatic and digital processing of machine-readable invoices in a structured data format.

Emerging technology: Potentially revolutionary technology which arises from new knowledge or the innovative application of existing knowledge.

European Single Procurement Document: Standard form on which tenderers declare that they meet the eligibility requirements for a public procurement procedure in the EU.

Final recipient: Natural or legal person ultimately benefitting from an EU-funded activity initiated or carried out by a beneficiary of EU aid.

Interoperability: Ability of a system to communicate and work with other systems, including by exchanging data.

Machine learning: Process in which an IT application uses artificial intelligence to improve its performance on a specific task.

Pan-European Public Procurement Online: Set of standards for EU-wide electronic procurement that allows the exchange of machine-readable procurement documents.

Pillar assessment: Commission assessment of the rules and procedures applied under indirect management to ensure the EU's financial interests are protected to the same level as under direct management.

RELEX family: Commission departments with responsibility for external action, i.e. DG International Partnerships, DG Neighbourhood and Enlargement Negotiations, and Service for Foreign Policy Instruments.

Robotic process automation: Use of specific software to perform IT processes automatically.

Structured data: Standardised quantitative information that follows a predefined structure, making it easy to analyse.

Ultimate beneficial owner: A person who ultimately gains financially from a business or asset.

Unstructured data: Information in different formats that is collected and stored in raw form, without being categorised or organised in a way that makes it easy to access and analyse.

ECA team

This review was adopted by Chamber V Financing and administering the Union, headed by ECA Member Jan Gregor. The task was led by ECA Member Laima Liucija Andrikienė, supported by Tomas Mackevicius, Head of Private Office and Aldona Dregvaite, Private Office Attaché; Margit Spindelegger, Principal Manager; Tomasz Kokot, Head of Task; Kristina Kosor, Eda Caliskan, Johanna Oehlin, Mircea-Cristian Martinescu and Jesús Nieto Muñoz. Ioanna Topa and Ioannis Hartoutsios provided IT audit support and Thomas Everett provided linguistic support.

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Digitalisation can transform public administrations, helping them to deliver services more efficiently. The Commission has been modernising and simplifying its complex IT landscape. However, the "truly digital Commission" is still a work in progress, and all bodies responsible for managing EU funds face challenges in this area – particularly the need to improve interoperability by aligning different IT systems and databases. Digitalisation also has the potential to make the audit of EU funds more efficient. However, because the multiple bodies managing EU funds use so many divergent IT systems, it is currently impossible to undertake large-scale testing.

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