Evaluation of e-Cohesion 2014-2020

Presentation of results for the Evaluation Network

20 May 2022

Structure of the presentation

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- Evaluation objectives, subject and scope
- Evaluation design
- Challenges and limitations
- Key evaluation findings
  - e-Cohesion systems identified and their coverage
  - assessment by evaluation criteria
  - what makes a good e-Cohesion system?
- Key challenges and potential solutions to address them

Evaluation objectives, subject and scope

Objectives of the evaluation

1 **Looking back:**

- to collect and provide up-to-date information on the implementation and performance of e-Cohesion systems during the 2014-2020 programming period
- identify good practice systems that could help to inspire the further development of e-Cohesion systems in other Member States
- identify the challenges and difficulties encountered by the Member States in setting up e-Cohesion systems

2 **Looking forward:**

- building on the data collected, to identify options for possible avenues for improvement to ensure that the users of e-Cohesion systems can make the most of the simplification potential of e-Cohesion

The underlying purpose of the evaluation is to enable policy learning.

Subject and scope of the evaluation

- This evaluation focused on e-Cohesion systems, which refers to the **electronic data exchange system - 'client side'**

- The e-Cohesion system usually constitutes the '**front office**' of a broader management system to record and store, in computerised form, data on each operation that is necessary for monitoring, evaluation, and financial management, which constitutes the 'back office'.
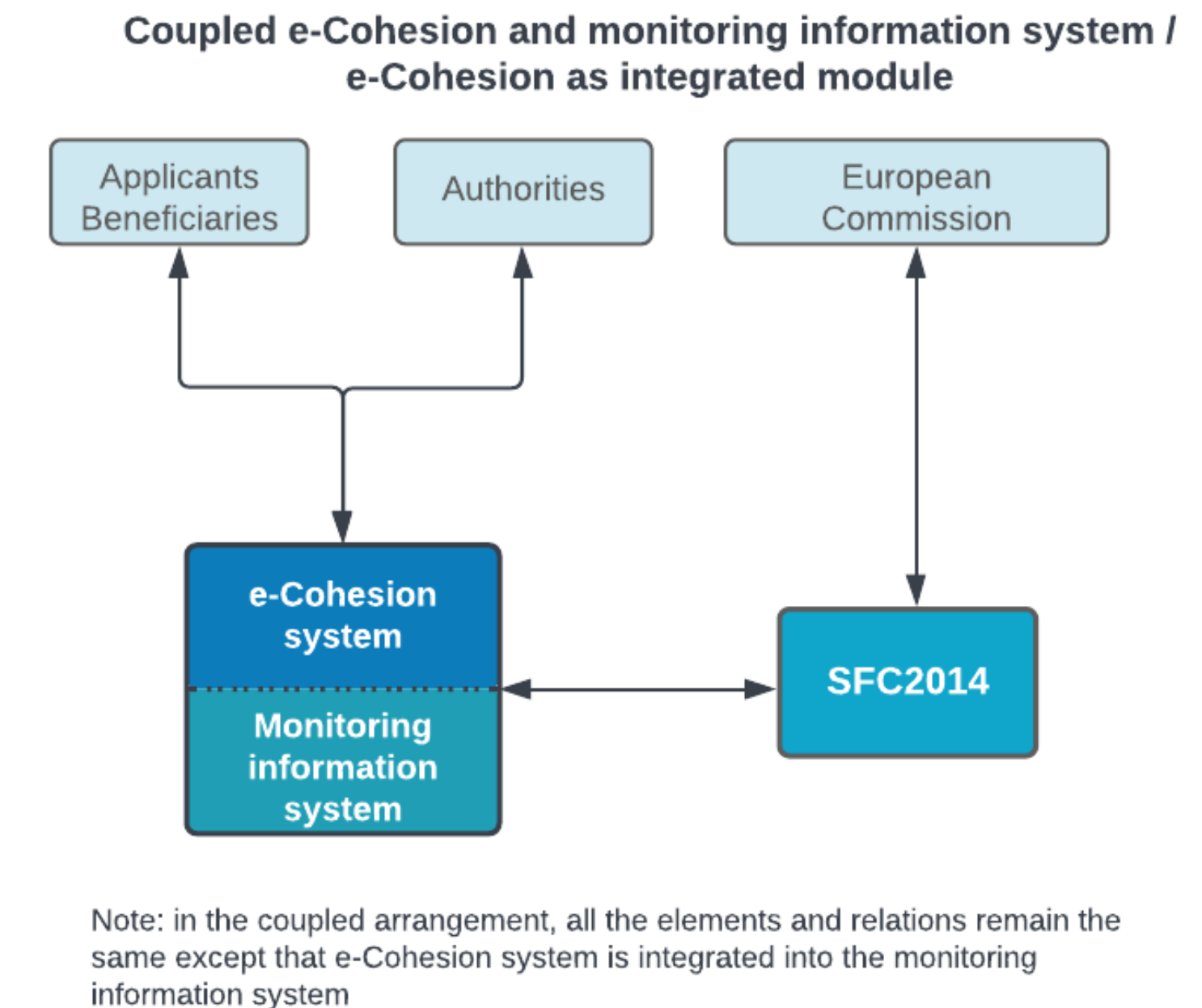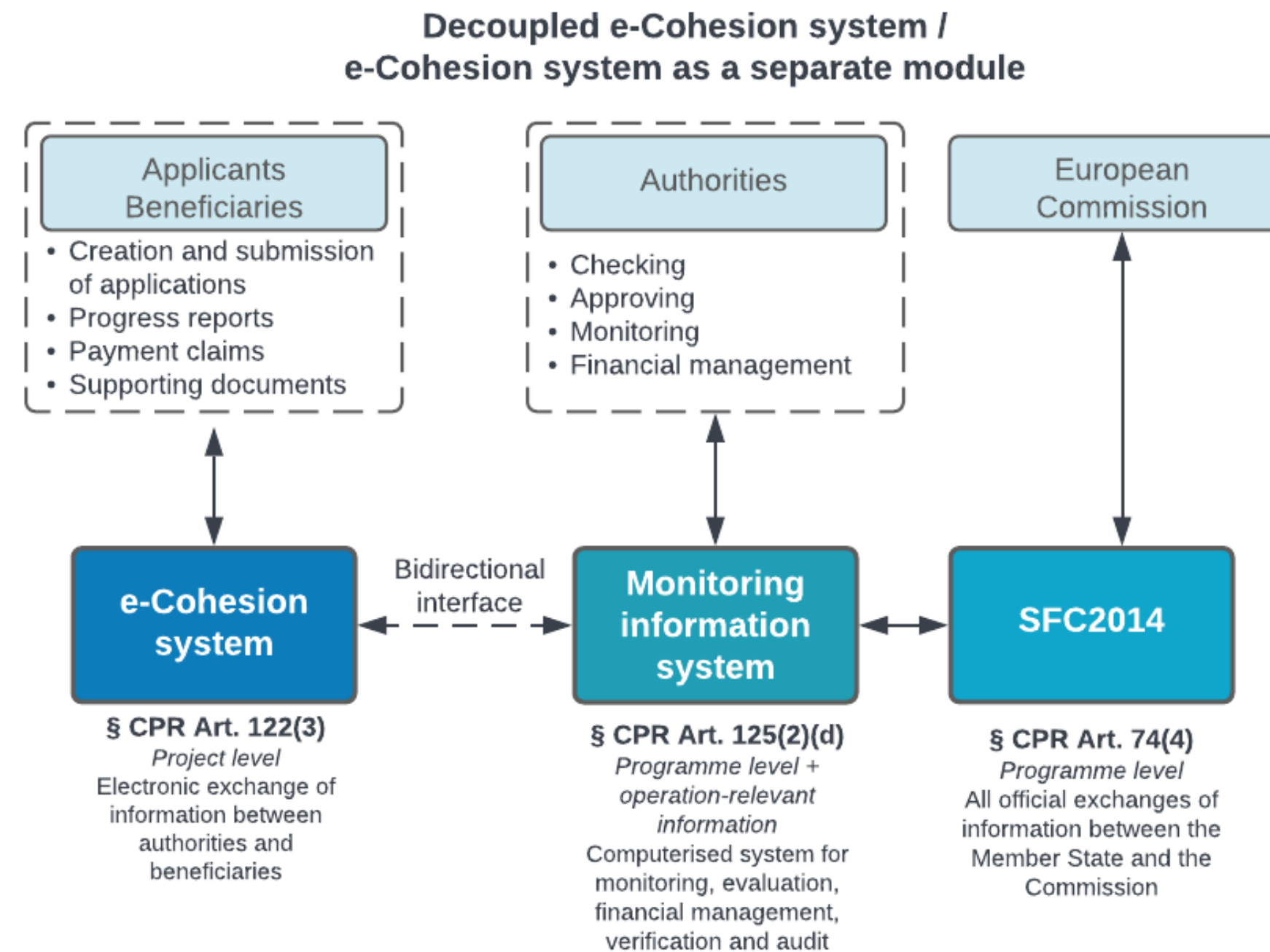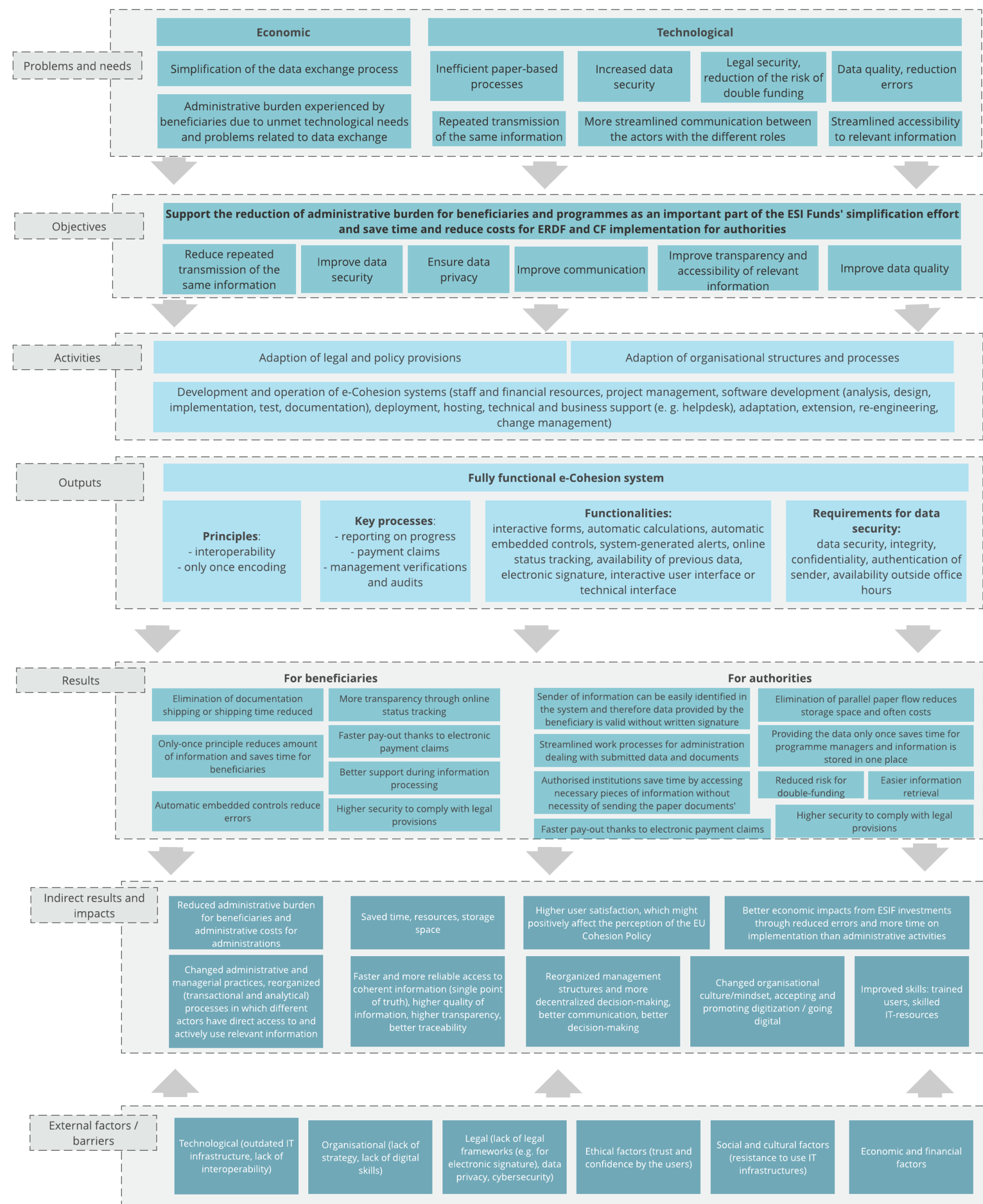

The evaluation covers the **e-Cohesion systems** set up in all the **27 Member States** for operational programmes supported by **ERDF and CF** during **2014-2020** programming period (201 national/regional OPs targeted), including also the programmes under the territorial cooperation objective – Interreg (101 programmes targeted)

Key legal requirements

Category	Dimension	Source
Principles	Interoperability. The systems referred to in the first subparagraph shall facilitate interoperability with national and Union frameworks <…>	**CPR Article 122 (3)**
	Once-only encoding. The systems referred to in the first subparagraph shall <…> allow for the beneficiaries to submit all information referred to in the first subparagraph only once. Submission of documents and data through the electronic data exchange systems shall be made only once as regards the same operation for all authorities implementing the same programme.	CPR Article 122 (3) Implementing Regulation Article 10 (4)
Key processes	Reporting on progress	Implementing Regulation Article 8 (1)
	Payment claims	
	Exchange of information related to management verifications and audits	
Functionalities	Interactive forms and/or forms prefilled by the system on the basis of data that are stored at consecutive steps in the procedures	Implementing Regulation Article 9 (3-a)
	Automatic calculations where applicable	Implementing Regulation Article 9 (3-b)
	Automatic embedded controls which reduce repeated exchanges of documents or information as far as possible	Implementing Regulation Article 9 (3-c)
	System-generated alerts to inform the beneficiary that certain actions can be performed	Implementing Regulation Article 9 (3-d)
	Online status tracking, allowing the beneficiary to monitor the current status of the project	Implementing Regulation Article 9 (3-e)
	Availability of all previous data and documents processed by the electronic data exchange system.	Implementing Regulation Article 9 (3-f)
	Exchanges of data and transactions shall bear an electronic signature compatible with one of the three types of electronic signature defined by Directive 1999/93/EC of the European Parliament and of the Council	Implementing Regulation Article 10 (2)
	The electronic data exchange systems shall be accessible either directly through an interactive user interface (a web application) or via a technical interface that allows for automatic synchronisation and transmission of data between beneficiaries' and Member States' systems	Implementing Regulation Article 10 (5)
Data security requirements	Data security	Implementing Regulation Article 9 (1)
	Data integrity	
	Data confidentiality. When processing information, the electronic data exchange systems shall guarantee the protection of privacy of personal data for individuals and commercial confidentiality for legal entities.	
	Authentication of the sender	
	The electronic data exchange systems shall be available and operational during and outside standard office hours, except for technical maintenance activities.	

Intervention logic of e-Cohesion

Diagram (left):

Problems and needs

Economic	Technological			
Simplification of the data exchange process	Inefficient paper-based processes	Increased data security	Legal security, reduction of the risk of double funding	Data quality, reduction errors
Administrative burden experienced by beneficiaries due to unmet technological needs and problems related to data exchange	Repeated transmission of the same information	More streamlined communication between the actors with the different roles		Streamlined accessibility to relevant information

Objectives

Support the reduction of administrative burden for beneficiaries and programmes as an important part of the ESI Funds' simplification effort and save time and reduce costs for ERDF and CF implementation for authorities

Reduce repeated transmission of the same information	Improve data security	Ensure data privacy	Improve communication	Improve transparency and accessibility of relevant information	Improve data quality

Activities

Adaption of legal and policy provisions	Adaption of organisational structures and processes

Development and operation of e-Cohesion systems (staff and financial resources, project management, software development (analysis, design, implementation, test, documentation), deployment, hosting, technical and business support (e. g. helpdesk), adaptation, extension, re-engineering, change management)

Outputs

Fully functional e-Cohesion system

Principles: - interoperability - only once encoding	Key processes: - reporting on progress - payment claims - management verifications and audits	Functionalities: interactive forms, automatic calculations, automatic embedded controls, system-generated alerts, online status tracking, availability of previous data, electronic signature, interactive user interface or technical interface	Requirements for data security: data security, integrity, confidentiality, authentication of sender, availability outside office hours

Results

For beneficiaries		For authorities	
Elimination of documentation shipping or shipping time reduced	More transparency through online status tracking	Sender of information can be easily identified in the system and therefore data provided by the beneficiary is valid without written signature	Elimination of parallel paper flow reduces storage space and often costs
Only-once principle reduces amount of information and saves time for beneficiaries	Faster pay-out thanks to electronic payment claims	Streamlined work processes for administration dealing with submitted data and documents	Providing the data only once saves time for programme managers and information is stored in one place
	Better support during information processing	Authorised institutions save time by accessing necessary pieces of information without necessity of sending the paper documents'	Reduced risk for double-funding / Easier information retrieval
Automatic embedded controls reduce errors	Higher security to comply with legal provisions	Faster pay-out thanks to electronic payment claims	Higher security to comply with legal provisions

Indirect results and impacts

Reduced administrative burden for beneficiaries and administrative costs for administrations	Saved time, resources, storage space	Higher user satisfaction, which might positively affect the perception of the EU Cohesion Policy	Better economic impacts from ESIF investments through reduced errors and more time on implementation than administrative activities	
Changed administrative and managerial practices, reorganized (transactional and analytical) processes in which different actors have direct access to and actively use relevant information	Faster and more reliable access to coherent information (single point of truth), higher quality of information, higher transparency, better traceability	Reorganized management structures and more decentralized decision-making, better communication, better decision-making	Changed organisational culture/mindset, accepting and promoting digitization / going digital	Improved skills: trained users, skilled IT-resources

External factors / barriers

Technological (outdated IT infrastructure, lack of interoperability)	Organisational (lack of strategy, lack of digital skills)	Legal (lack of legal frameworks (e.g. for electronic signature), data privacy, cybersecurity)	Ethical factors (trust and confidence by the users)	Social and cultural factors (resistance to use IT infrastructures)	Economic and financial factors

Bullet points (right):

- Problems and needs
- Objective: support the reduction of administrative burden for beneficiaries and programmes as an important part of the ESI Funds' simplification effort and save time and reduce costs for ERDF and CF implementation for authorities
- Activities: adaption of legal and policy provisions, adaption of organisational structures and processes, development and operation of e-Cohesion systems
- Outputs: fully functional e-Cohesion system
- Results: differentiated for beneficiaries and for authorities
- Indirect results and impacts: reduced administrative burden, saved time and resources
- External factors / barriers

Evaluation criteria and questions

Relevance	**EQ1**. To what extent do the different types of e-Cohesion systems and key functionalities available meet the needs for exchange of data, documents and information of the different types of users of these systems?
	EQ2. How did the e-Cohesion systems adapt to the evolving needs of the relevant stakeholders?
	EQ3. What external factors make an e-Cohesion system (more or less) relevant for different types of users?
Coherence	**EQ4.1** (internal coherence) To what extent do authorities of the programme have access rights to the system and share data among themselves?
	EQ4.2 (internal coherence) To what extent are the e-Cohesion systems introduced and/or developed for the period 2014-2020 compatible and/or complementary with relevant national register databases and other systems of electronic exchange for the administration of other EU funds in the Member States?
	EQ5. (external coherence) To what are extent the e-Cohesion systems compatible and/or complementary with the System for Fund Management (SFC) and other Commission's systems of electronic exchange of data, documents and information (e.g. keep.eu (Interreg))?
Effectiveness	**EQ6**. To what degree does the operation of the e-Cohesion system implement the legal requirements?
	EQ7. Does the use of the e-Cohesion system lead to (perceived) simplification (differentiated by type of user and process)?
	EQ8. Does the use of the e-Cohesion system lead to a (perceived) reduction of administrative burden and cost (differentiated by type of user and process) in a longer term?
Efficiency	**EQ9**. For each user type and process for which e-Cohesion is used: where did e-Cohesion lead to improvements or make things worse?
	EQ10. To what extent are the benefits of e-Cohesion systems higher or lower than its costs (per type of user)?
	EQ11. For each user type and process: which actions within the workflow cause the most effort (data capturing, checking, searching, coordinating)?
EU-added value	**EQ12**. To what extent has the e-Cohesion initiative (as defined in the CPR) contributed to the development of electronic data exchange systems in the member states?
	EQ13. To what extent has the introduction of e-Cohesion systems contributed to the dissemination of good practice and policy learning to other policy areas in the member states?
User-friendliness	**EQ14**. Is the e-Cohesion system self-descriptive (clear structure, feedback via tool tips, etc.) and intuitively useable?
	EQ15. Does the e-Cohesion system have the main functionalities, as per e-Cohesion requirements, that facilitate user-friendliness?
	EQ16. Does the e-Cohesion system provide help functionality and a help-desk service?

Evaluation design

Specific tasks of the assignment and methods

	DESK RESEARCH	INTERVIEWS	SURVEYS	CASE STUDIES	CROSS-CASE ANALYSIS	SYNTHESIS AND TRIANGULATION
Task 1 – Finalisation of methodology and presentation of the Inception Report	X					
Task 2 – Mapping of e-Cohesion systems	X		X			
Task 3 – Preparation of two pilot case studies of good practices	X	X		X		
Task 4 – Surveys of authorities and beneficiaries			X			
Task 5 – In-depth analysis of selected systems – additional good-practice case studies	X	X	X	X	X	
Task 6 – Analysis of changes needed in the future – potential solutions for the remaining challenges in implementing e-Cohesion						X
Task 7 – draft Final Report						X
Task 8 – Final Report						X

Design

Data collection:

- **Desk research** (previous studies; websites of authorities; user manuals; analysis of thousands of documents available of SFC2014; web-search)
- **Surveys** of authorities (N=455) and beneficiaries (N=6248), available in all EU languages
- **Webinar** with authorities (a bit more than 100 participants)
- **Interviews** with authorities and beneficiaries (84 persons interviewed)

Data reporting

- Mapping Excel
- 28 fiches
- Six case study reports
- Task 1 Report (Inception), Task 2 Report (desk research-based mapping), Task 4 Report (surveys), Webinar Report, Task 5 Report (cross-case analysis), draft Final Report, Final Report
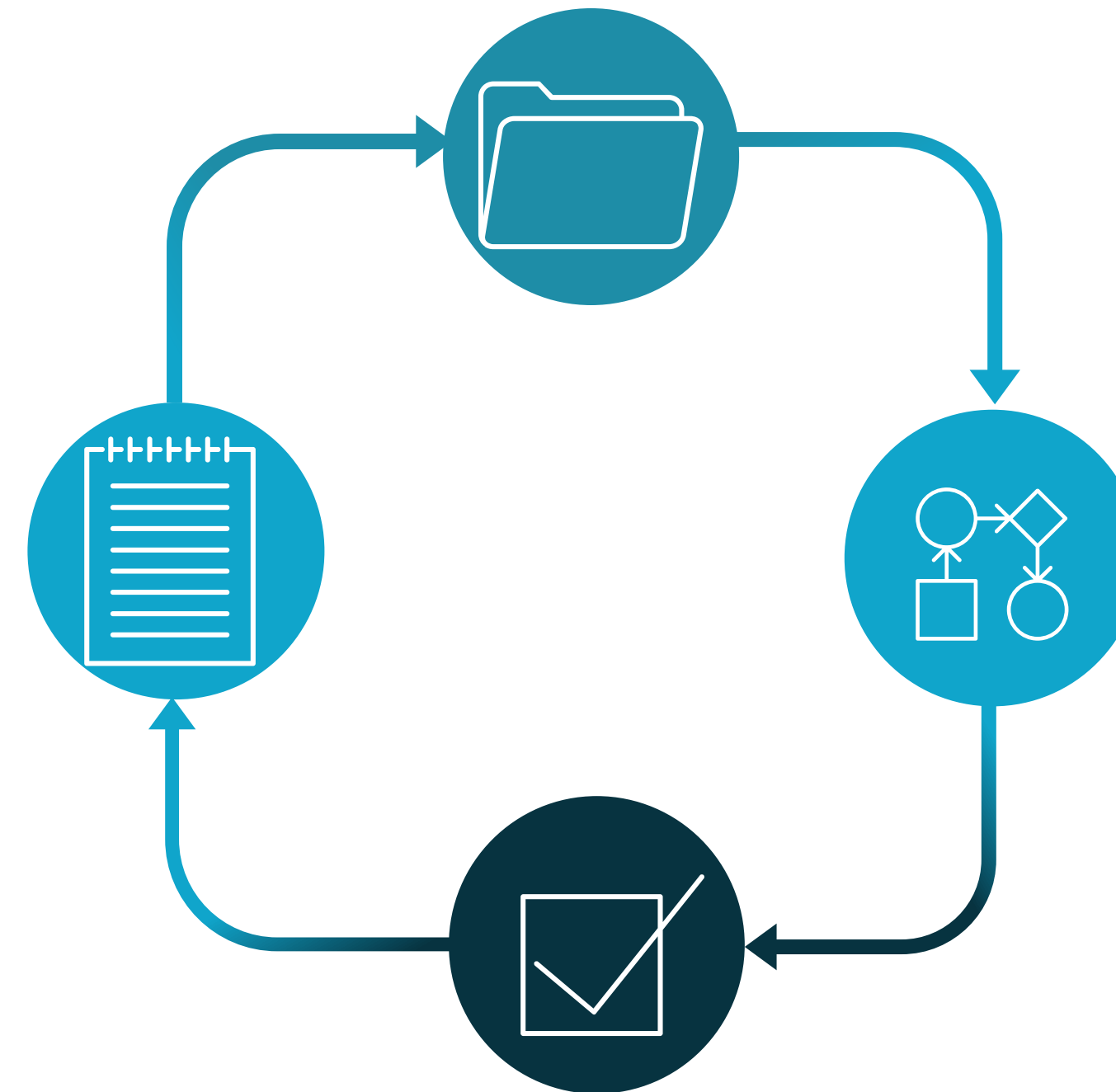
Data analysis

- Pilot and in-depth case studies (six in tota
- Cross-case analysis
- Answers to evaluation questions
- Challenges and recommendations

Data validation

- Continuous communication with authorities aiming to clarify/fill data gaps / validate (got in contact with more than 30 persons from authorities)

Design – mapping of e-Cohesion

Mapping of e-Cohesion systems and their characteristics		
Desk research-based mapping	Surveys of beneficiaries and authorities	Case studies (pilot and in-depth)
- Identify e-Cohesion systems in EU27 and Interreg - Map certain information identified in the mapping framework for all e-Cohesion systems	- Map certain information identified in the mapping framework for all e-Cohesion systems - Provide insights on use, quality, user-friendliness, etc. of all e-Cohesion systems	- Provide detailed analysis of five selected good practice systems and their characteristics - Provide insights on use, quality, user-friendliness, etc. of five selected good practice systems
Provides factual, more descriptive data for answering the evaluation questions	Key source for answering the evaluation questions	Provides qualitative, contextual information to the answers of the study questions
Excel with information mapped	Fiches	Overall analysis in the Final Report

Challenges and limitations

Challenges and limitations to the evaluation

Lack of previous information

The first attempt of such a scale on e-Cohesion - evaluation team had limited data on which to build

Previous, useful research on the subject existed, but it only provided scattered and much more general data on e-Cohesion, which also had to be updated

Very specific and technical subject matter

The topic of electronic data exchange systems (e-Cohesion systems) is not straightforward

High level of decentralisation of such information, with knowledge largely being spread out among various persons working at the responsible authorities

There is a lack of a central overview of e-Cohesion and thus each system needs to be explored through the various MAs and IBs

Difficult to establish communication

Primary source of information was representatives of mainly MAs and IBs. It was difficult to identify the persons within authorities who know the policy and technical side of the e-Cohesion

Challenging survey programme

Survey was experimental in the sense that it was the first time that ERDF and CF beneficiaries had been targeted on such a scale

The underlying challenge was reaching beneficiaries; survey was, from the very beginning, not intended to be representative

Approach of targeting beneficiaries through the MAs and leaving the MAs with all control over this process, resulted in a very uneven distribution of responses being collected

Because of the complexity and interlinkages between the questions, the EU Survey tool had performance issues that had to be addressed

Key findings

e-Cohesion systems identified and their coverage

e-Cohesion systems identified

Key messages:

➢ **Much larger scope than expected**: 35 systems identified during the initial mapping provided in the Inception Report versus the final 108 e-Cohesion systems identified

➢ e-Cohesion systems could be categorised into three key groups based on their use

108 systems identified

75 for national/regional OPs

11 for national/regional + Interreg

22 for Interreg only

These systems are used only for national/regional programmes.

These systems are primarily used for national/regional programmes, but also cover some Interreg ones.

These systems are exclusively used in Interreg programmes.
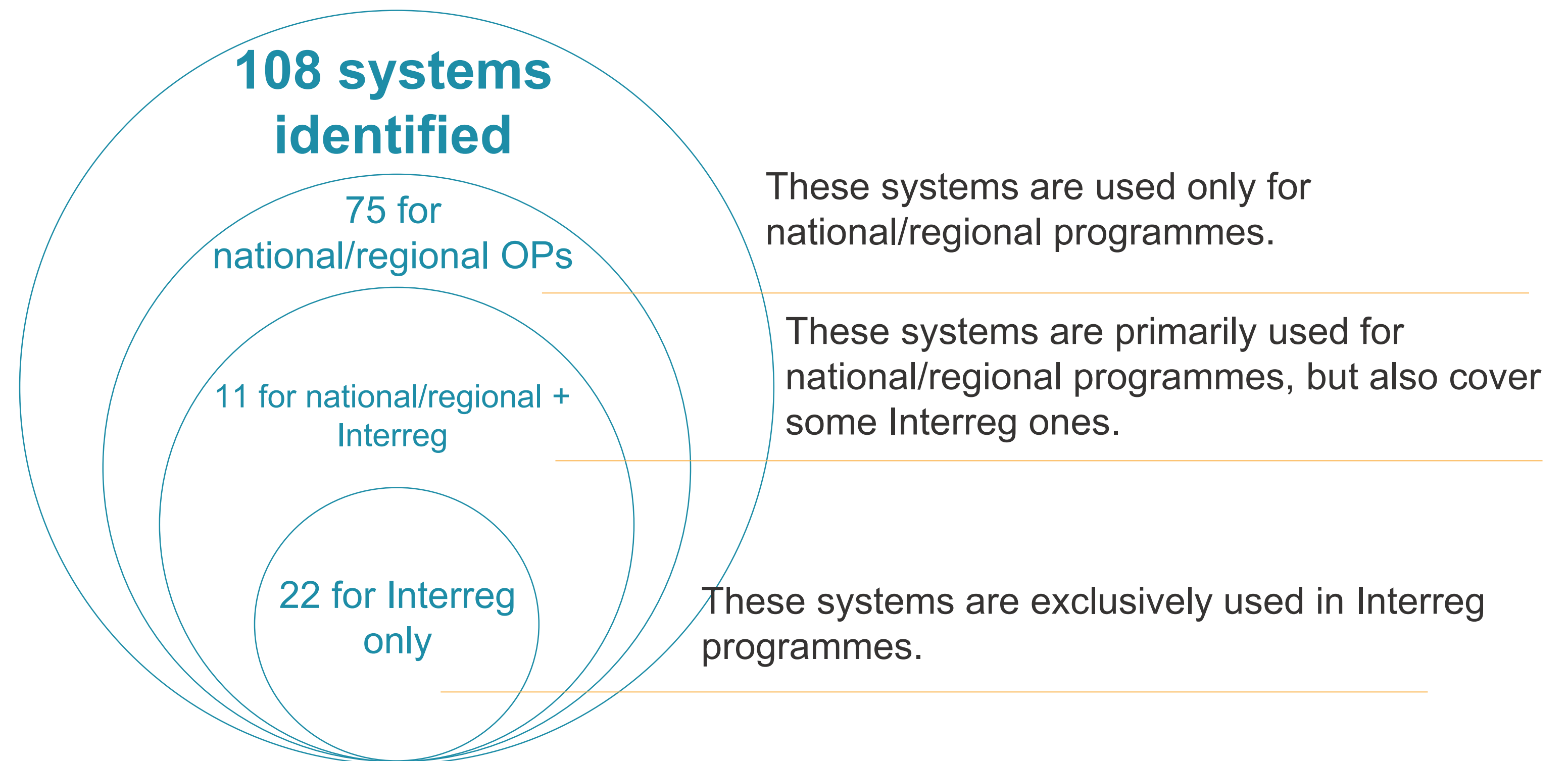
Scope of the use of the systems: country perspective

Key messages:

➤ e-Cohesion systems for all EU27 Member States were identified

➤ e-Cohesion systems differ with regard to conceptual approaches (e.g. level of (de) centralisation, scope of OP coverage) and technologies used

No. of systems	Country
1 system	BG HR CY CZ DK EE FI HU IE LV LT LU MT NL PT RO SK SI
2 systems	AT BE FR EL PL SE
9 systems	ES
15 systems	DE
32 systems	IT
22 systems	Interreg-only systems
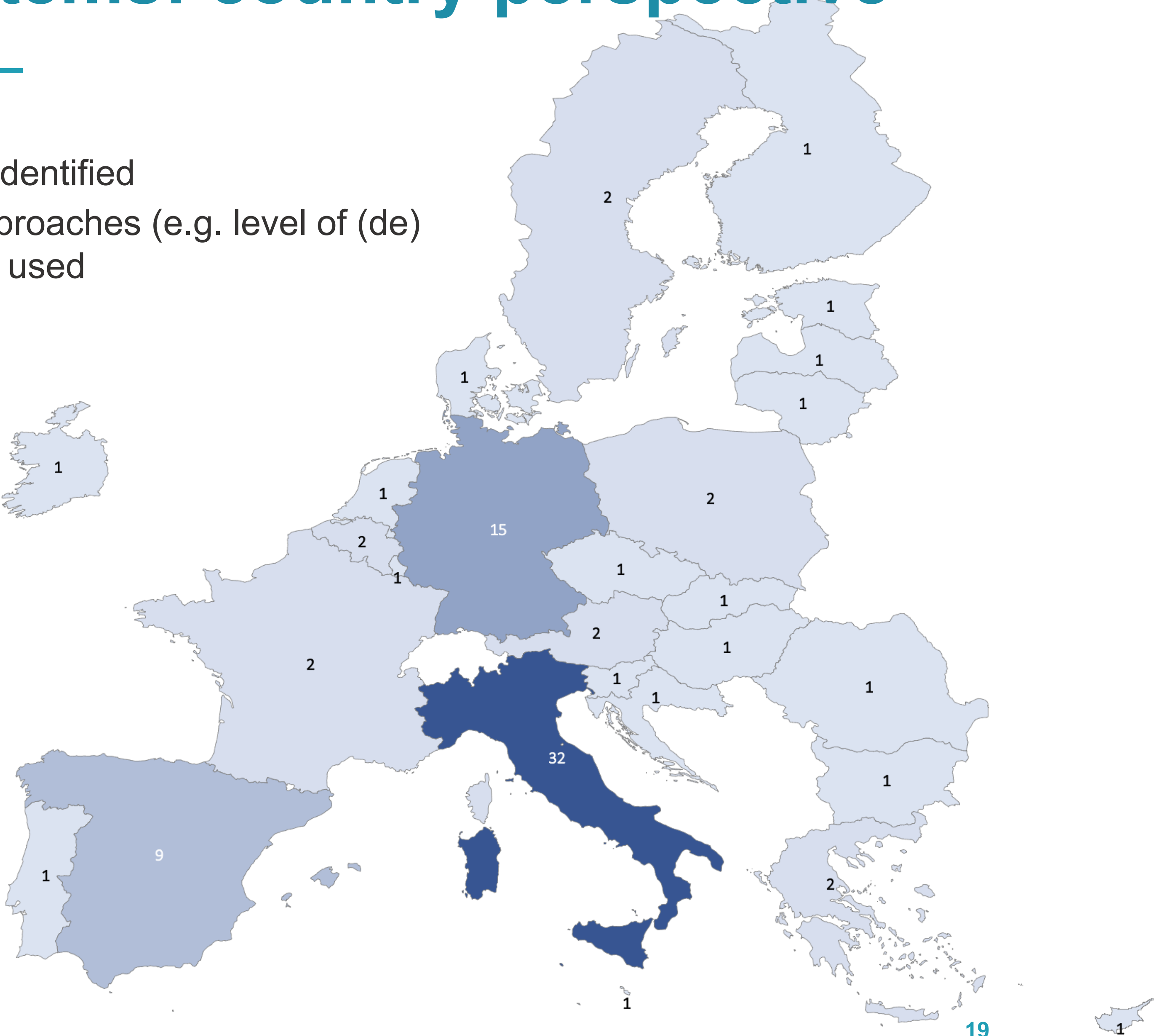
Scope of the use of the systems: programme perspective

Key messages:

➤ Evaluation focused on 302 programmes (201 national/regional OPs and 101 Interreg programmes, including ENI)

➤ All but eight of these programmes have at least one dedicated e-Cohesion system

➤ 71% of all e-Cohesion systems only support one programme

➤ 85% of all programmes use one system

➤ Five different e-Cohesion systems cover almost 50% of programmes

How many programmes each system covers?

71%	10%	19%

0%   20%   40%   60%   80%   100%

- Covers 1 programme (N=77)
- Covers two programmes (N=11)
- Coveres three or more programmes (N=20)
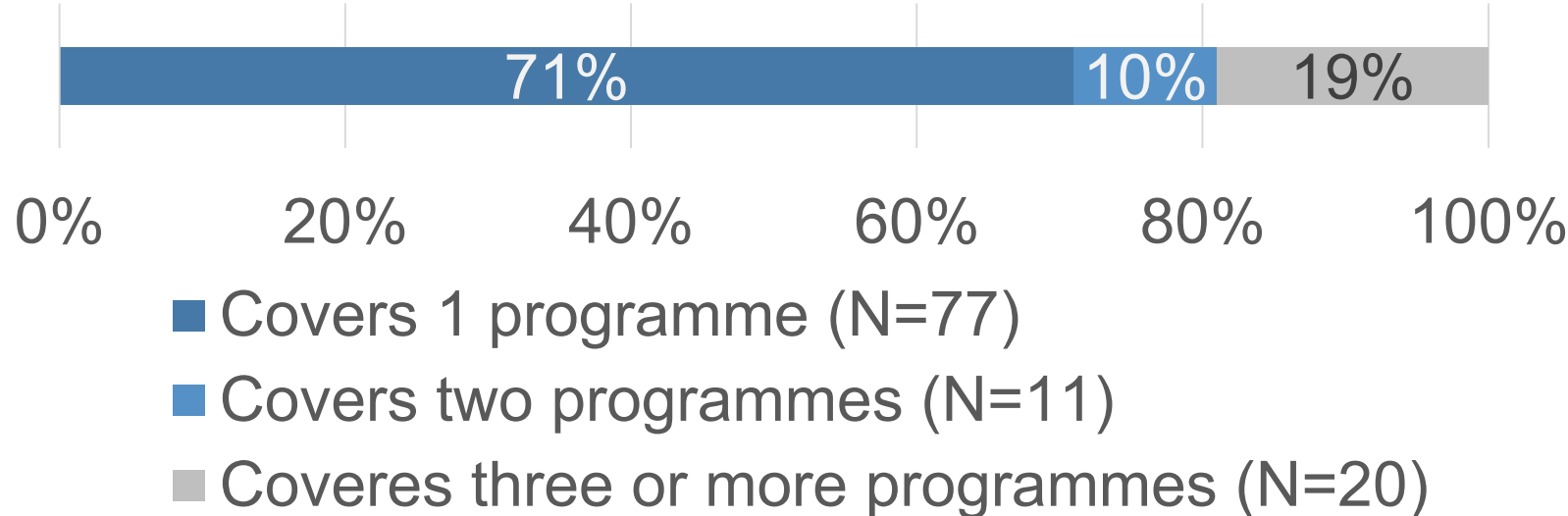
No. of systems used per programme

| 3% | 85% | 11% 0% |

0%   20%   40%   60%   80%   100%

- 0 systems (N=8) ■ 1 system (N=258) ■ 2 systems (N=33)
- 3 systems (N=2) ■ 4 systems (N=1)
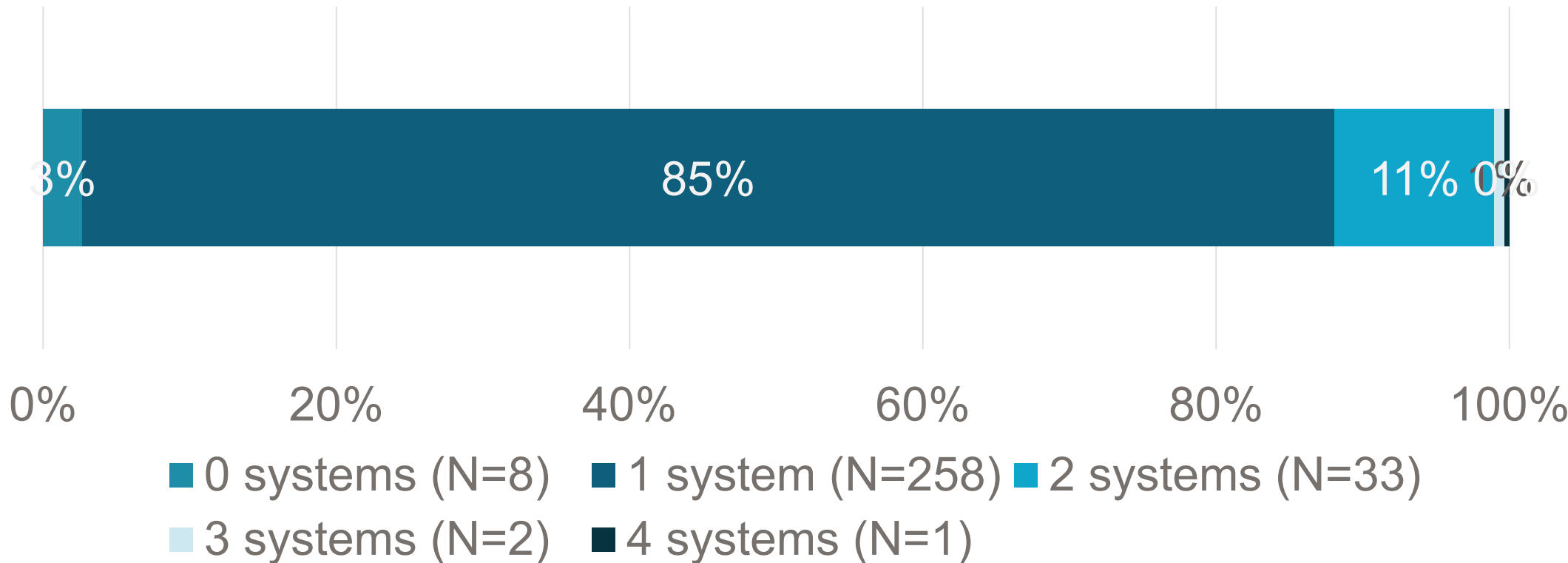
Number of programmes covered

Synergie (37 programmes)	eMS (36 programmes)	SL2014 (25 programmes)	Monitoring Information System (MIS) / Ολοκληρωμένο Πληροφοριακό Σύστημα (ΟΠΣ) (22 programmes)	Fondos2020 (21 programme)
12%	12%	8%	7%	7%
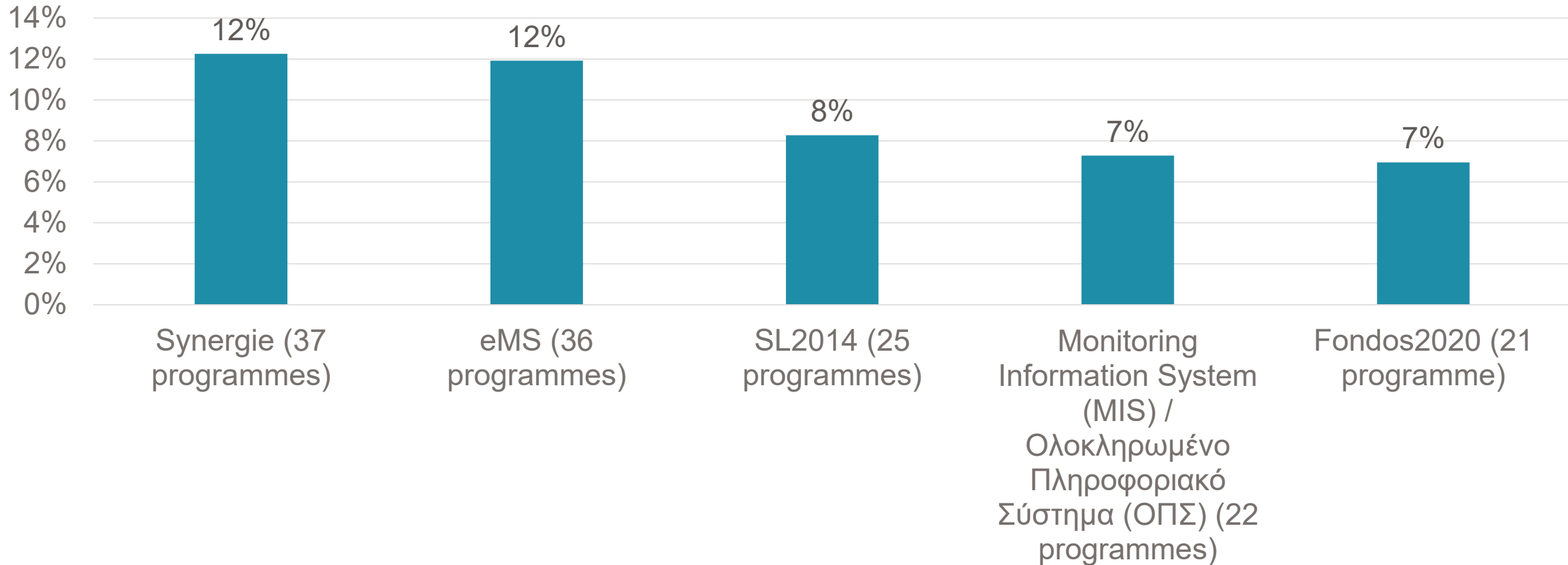
Assessment of evaluation criteria

Relevance (1)

Relevance, in the context of e-Cohesion, is defined as the extent to which the objectives of the e-Cohesion initiative are pertinent to the policy priorities and needs faced by the target groups of the intervention.

Key messages

- Whilst the e-Cohesion systems are **relevant to all institutional user groups**, the extent of their relevance varies between different types of users and system processes; the systems are most extensively used to exchange information related to **payment claims** and **progress reports.**

➢ No categories of (potential) users are excluded from using e-Cohesion systems, but different institutional user groups may use different systems and/or different parts of the e-Cohesion system. Survey results indicate that the systems are used most extensively by MA and CA representatives, and least by AA representatives.

➢ Overall, it is most common for authorities **to exclusively use the system to exchange information related to project implementation** (e.g., progress reports and payment claims); parallel channels are most widely used for information exchange related to auditing activities (e.g., management verifications, on-the-spot checks).

Share of all relevant data exchanges that take place via the e-Cohesion system, survey of authorities

66%
70%
50%

Exchange 75-100% of all information related to project application via the e-Cohesion system (N=235)

Exchange 75-100% of all information related to project implementation via the e-Cohesion system (N=241)

Exchange 75-100% of all information related to auditing activities via the e-Cohesion system (N=211)
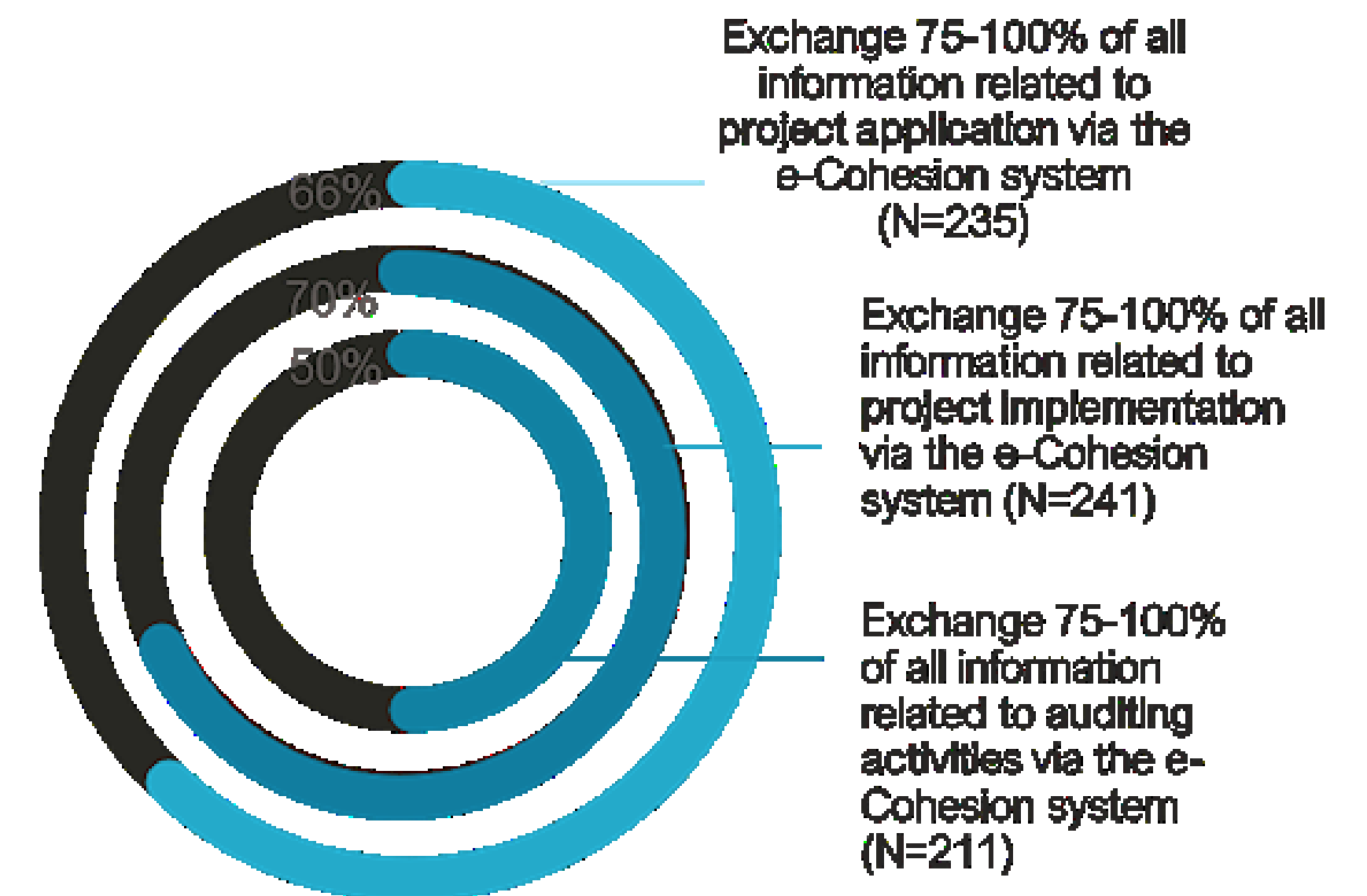
Relevance (2)

Key messages

- Like authorities, beneficiaries use e-Cohesion systems most extensively for information exchange related to project implementation; the majority of beneficiary respondents use e-Cohesion systems exclusively when **submitting payment claims and progress reports**.

- Beneficiaries **still use other channels** (e.g., e-mails) for data exchange relating to key processes such as signing contracts and providing documents for controls/verifications as well as ad hoc communication.

- Most e-Cohesion **systems collect user feedback** to continue to adapt to the evolving needs of their stakeholders. Our findings suggest that there is a correlation between the attention towards user feedback and perceived user-friendliness of systems.

% of beneficiaries claiming that all documents/reports were submitted only through the system for the following processes:

76%	70%	44%	41%	31%
Submitting payment claims for your project/operations (N=5079)	Reporting on the progress of your project/operations (N=4998)	Providing documents for management verifications and on-the-spot checks(N=4496)	Preparing and signing contracts for grants (or other forms of support (N=4827)	Communicating with relevant authorities in relation to key processes (N=4892)

User feedback and system improvement (survey of beneficiaries)

	Strongly agree	Agree	Disagree	Strongly disagree
I can easily provide my feedback to authorities on the functioning of the system if something does not work or needs improvement (N=4027)	17%	57%	19%	6%
Once reported, various malfunctions in the system are quickly resolved (N=3409)	14%	56%	22%	8%
I feel that various functionalities and the overall functioning of the system is being continuously improved (N=3479)	11%	57%	24%	8%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ Strongly agree ■ Agree ■ Disagree ■ Strongly disagree

Coherence (1)

Coherence in the context of e-Cohesion is defined as the alignment between the different authorities and systems for the electronic exchange of information for the purpose of implementing EU cohesion policy. Coherence is operationalised on three levels; coherence on the programme level, the national level, and the EU level.

Key messages

- Across the identified e-Cohesion systems, there is a high level of coherence defined as the extent to which **programme authorities have access** rights to the system and share data amongst themselves, once submitted by beneficiaries.

- Coherence on a national level is not uniformly developed across e-Cohesion systems, and the results here are varied. It is **less common for e-Cohesion systems to be connected to national registers/databases than a central monitoring system.**

Are the following types of authorities able to access the information submitted by beneficiaries (such as payment claims, progress reports, etc.) through the indicated system?

Authority	Yes	No
Managing authority (N=402)	98%	2%
Intermediate body (N=310)	93%	7%
Certifying authority (N=375)	95%	5%
Audit authority (N=358)	97%	3%

■ Yes ■ No
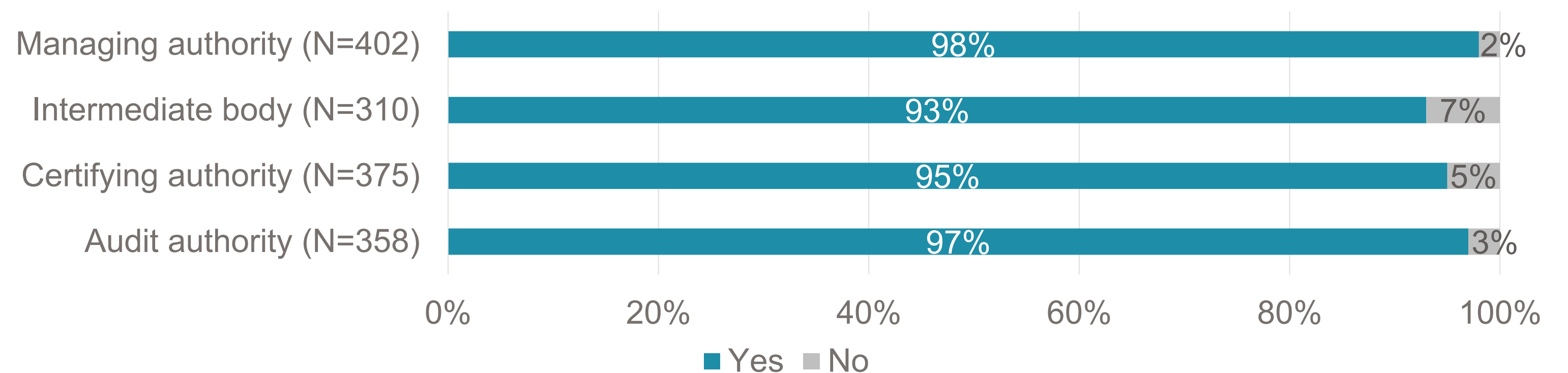
➢ Coherence on the national level. Based on our mapping of systems, almost one-third of e-Cohesion systems identified (31 out of the 108) are linked to other national/governmental electronic databases/registers, and the corresponding number for central monitoring systems is almost two-thirds (68 out of the 108).

Coherence (2)

Key messages

- **Coherence among e-Cohesion systems on the EU-level was limited** during the 2014-2020 programming period; only a minority of systems connected to European management and/or monitoring systems for ESIF, such as SFC or keep.eu (the latter is only relevant for Interreg).

- It should be noted that there was some incongruence between survey results and mapping data on coherence on the national and EU level, but the general trends remain; **internal coherence is more common than external coherence, yet both are areas that warrant further improvement.**

➢ It is important to note that both SFC and keep.eu are, most often, connected to the central monitoring system for programme implementation, rather than the e-Cohesion system itself. Whilst the e-Cohesion systems collect the relevant data, it could, in many instances, be the central monitoring system and/or IT back-office infrastructure that stores it.

➢ Coherence on the EU-level. According to our mapping data, around one-fifth (24 out of 108) of the systems identified are connected to the SFC, and only one system is connected to keep.eu.

Effectiveness (1) – addressing the key requirements

Effectiveness refers to the extent to which objectives and intended results are achieved. Our analysis aimed to uncover whether e-Cohesion systems contain the required functionalities, cover the key principles and processes, and whether they are perceived by the users to have delivered the expected simplification, reduction in administrative costs and administrative burdens.

Key messages

- The fulfilment of the key requirements on principles, processes, functionalities, and data security requirements is mixed:

  - Almost all of the systems we identified fulfil interoperability requirement, but interoperability at a national level is less common and is not uniformly developed across e-Cohesion systems, and interoperability at EU level (i.e. integration with the SFC, keep.eu, etc.) has only been established by a minority of e-Cohesion systems

  - Once-only encoding, which is fulfilled by most systems, based on information previously submitted by the beneficiary

  - Majority of the e-Cohesion systems identified support the key processes and even go beyond the requirements set by the European Commission, by incorporating the application process, but parallel channels are still being used to exchange data by most systems

  - Overall, almost all of the identified e-Cohesion systems support the key functionalities necessary for e-Cohesion systems

Interoperability of e-Cohesion systems (mapping data)

75% Systems that ensure all authorities access to information once submitted by beneficiary (N=108)

63% Systems linked to central monitoring systems (N=108)

29% Systems linked to other national/governmental electronic databases/registers (N=108)

22% Systems linked to SFC2014 (N=108)
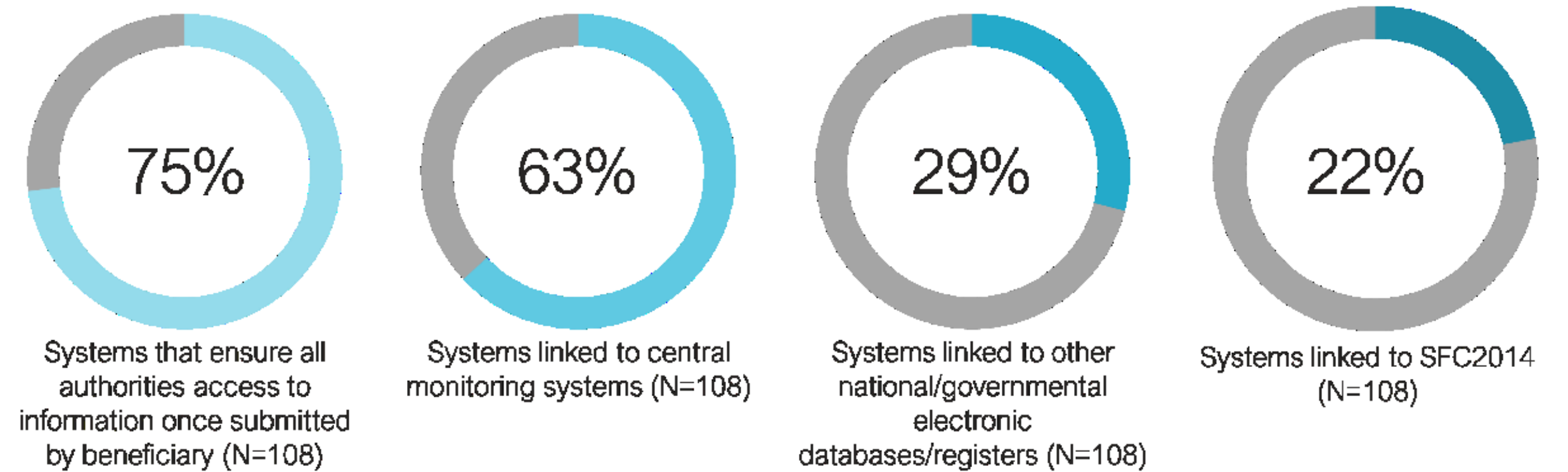
Overview of the extent to which information is pre-filled, % of respondents who 'strongly agree' or 'agree' (surveys of authorities and beneficiaries)

- Authorities
- Beneficiaries

89% / **82%** Pre-fills information based on what beneficiaries entered in previous steps

88% / **81%** Pre-fills information based on beneficiaries' project application

46% / **56%** Pre-fills information based on information available from national/regional registers
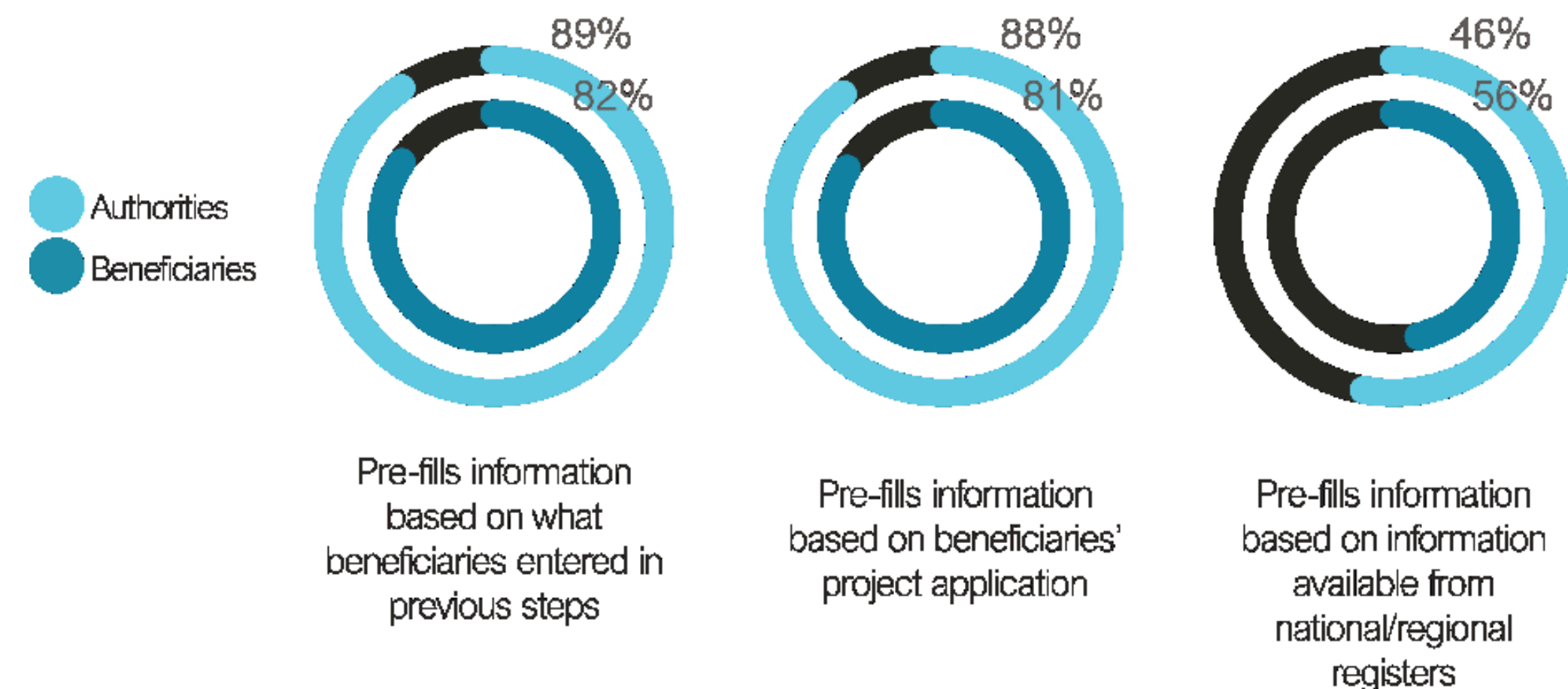
Effectiveness (2) - simplification and reduction of administrative burden

Key messages

- It is clear that the implementation of the e-Cohesion systems has **brought significant simplification of key processes and reduced administrative burdens** for all user groups.

- For beneficiaries, the provision of a single point of data exchange, interactive forms (especially pre-filled forms) and automatic calculations and verifications has contributed most to the reduction of administrative burden.

- For institutional users, the elimination of paper-based processes, and the e-Cohesion system as a single point of data exchange has contributed most to the reduction of administrative burden.

Impacts and improvements due to e-Cohesion (surveys of authorities and beneficiaries)
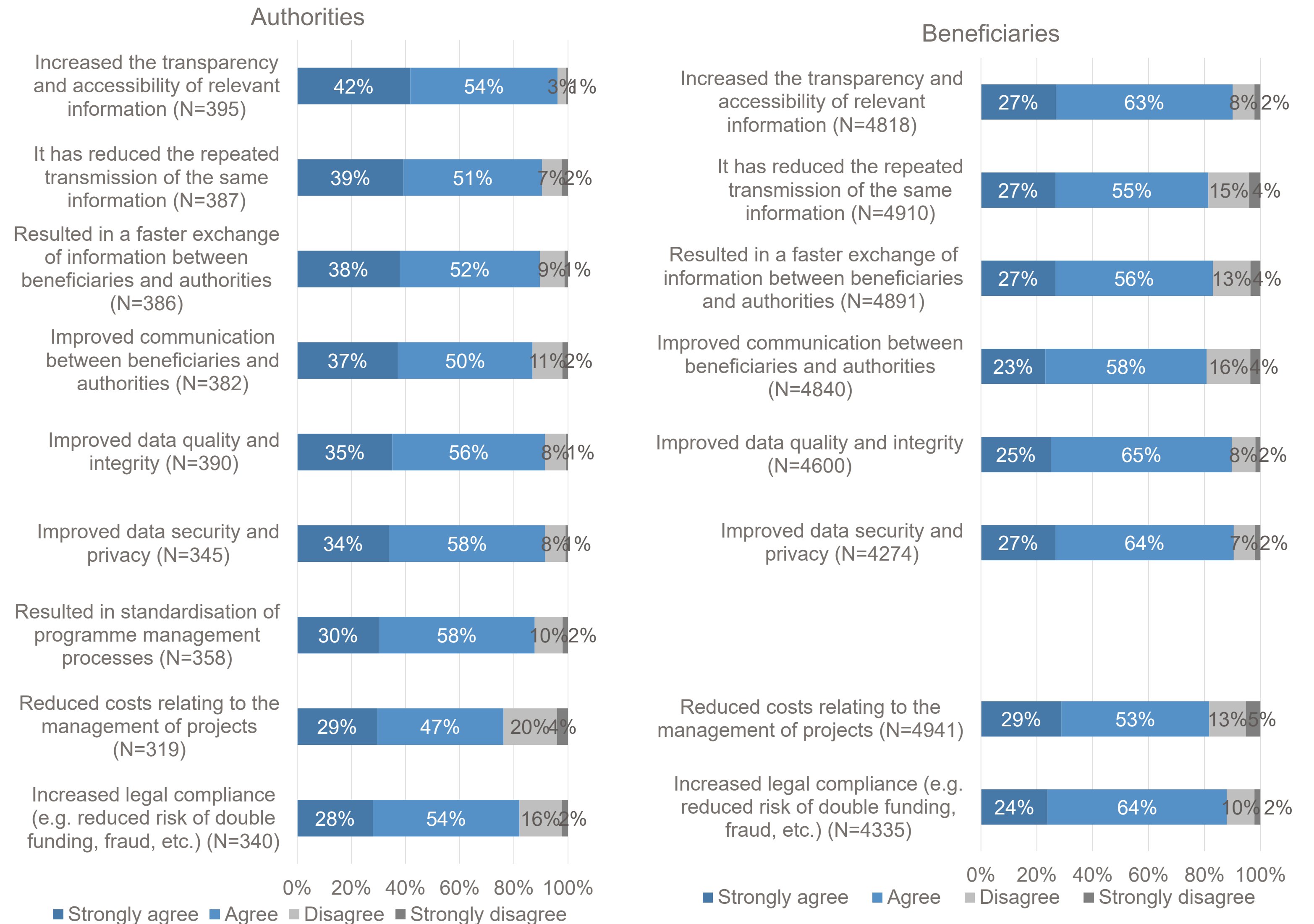
Efficiency (1) - outcomes of the use of e-Cohesion systems compared with previous processes and costs vs benefits

Efficiency, in the context of e-Cohesion, primarily considers the benefits or outcomes of the implementation of e-Cohesion systems (e.g. reduced administrative burdens and simplified procedures) compared with the costs incurred in relation to their deployment and operation.

Key messages

- e-Cohesion has resulted in **significant time and resource gains** and its benefits (e.g., reduced administrative burden, simplified procedures) consistently outweigh any associated costs (e.g., time and effort required to use it) among different types of users and processes compared to previous paper-based processes.

- Across all processes, the b**enefits of introducing e-Cohesion systems significantly outweigh the associated costs** compared to previous paper-based processes. This indicates a high degree of efficiency when assessing the impact of e-Cohesion systems during project application and implementation.

Time and resource gains as a result of electronic data exchange (surveys of authorities and beneficiaries)

Resulted in a faster exchange of information between beneficiaries and authorities

	Strongly agree	Agree	Disagree	Strongly disagree
Authorities (N=386)	38%	52%	9%	1%
Beneficiaries (N=4891)	27%	56%	13%	4%

Reduced costs relating to the management of projects

	Strongly agree	Agree	Disagree	Strongly disagree
Authorities (N=319)	29%	47%	20%	4%
Beneficiaries (N=4941)	29%	53%	13%	5%

■ Strongly agree ■ Agree ■ Disagree ■ Strongly disagree
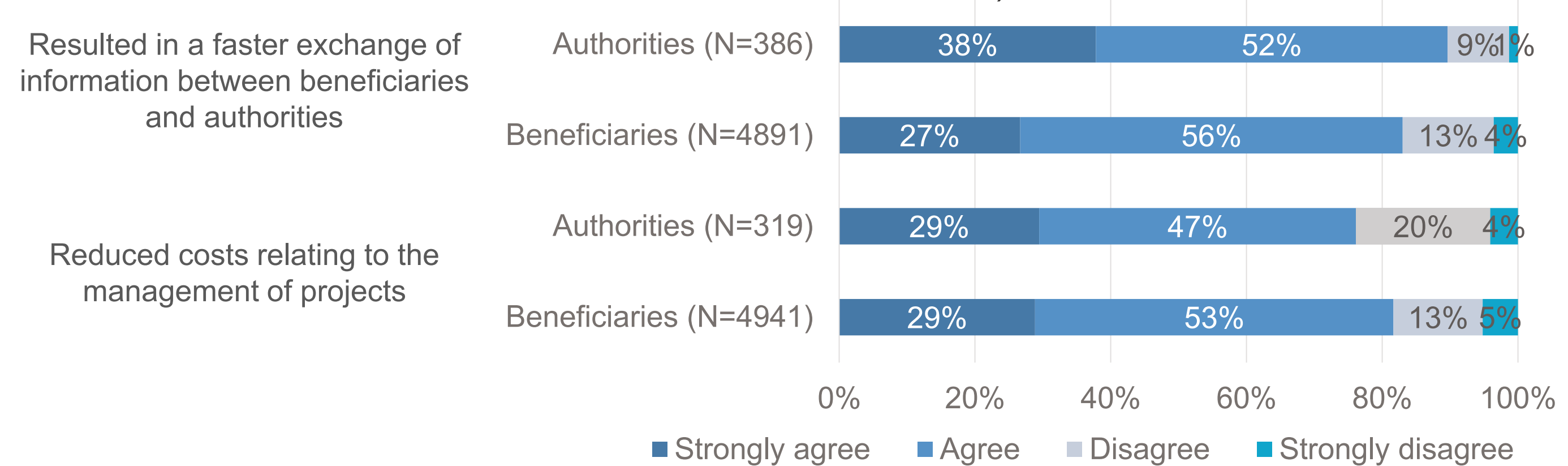
% of respondents who strongly agree or agree that systems' benefits outweigh their cost for tasks related to …

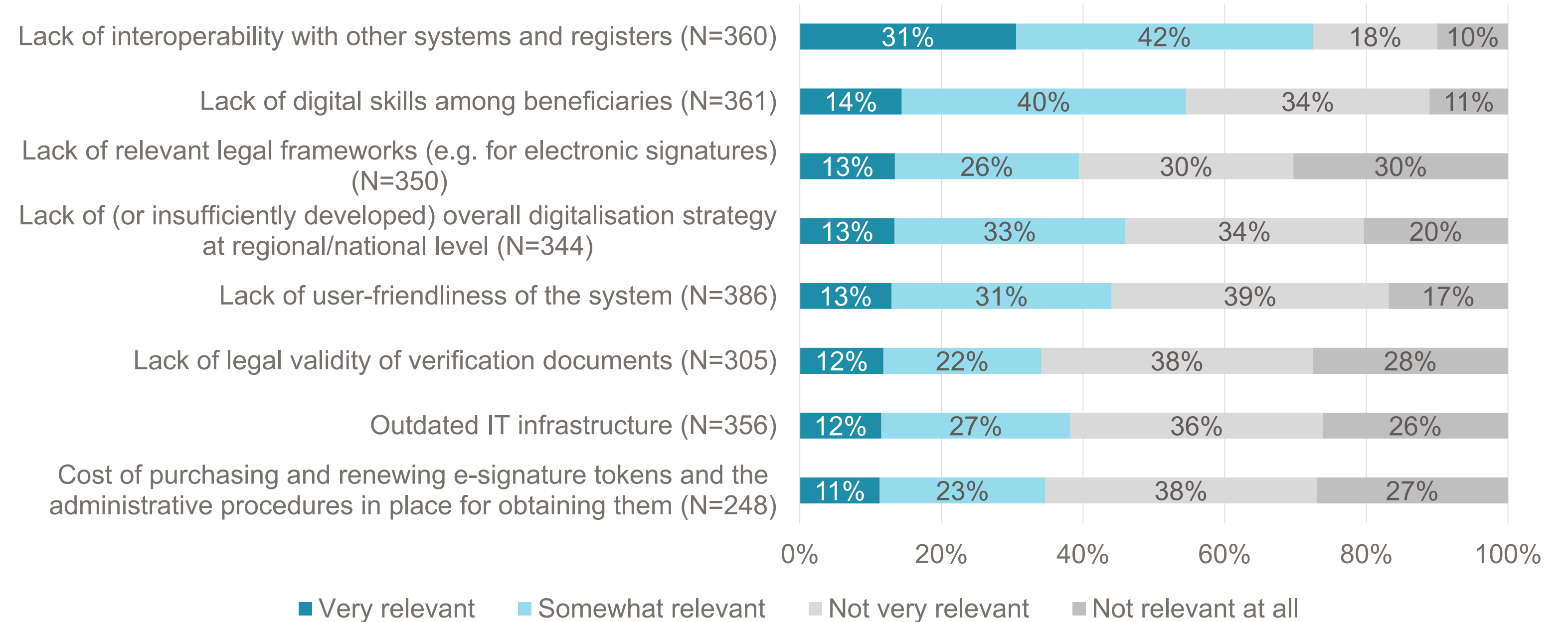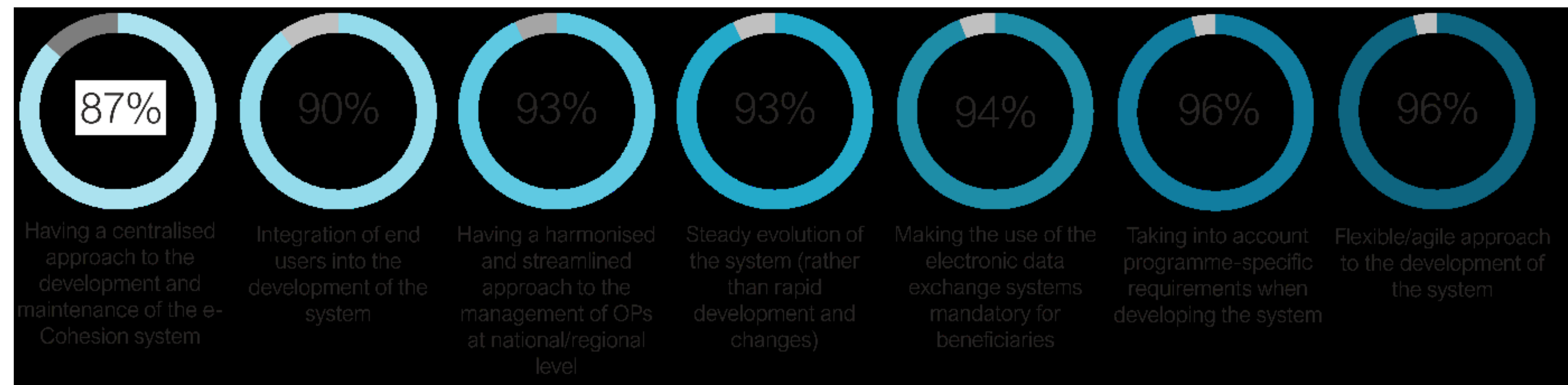| … payment claims	… progress reports	… applications	… management verifications / on-the-spot checks	… contracts for grants
93% / 88%	92% / 88%	93% / 89%	90% / 85%	91% / 88%

Authorities Beneficiaries
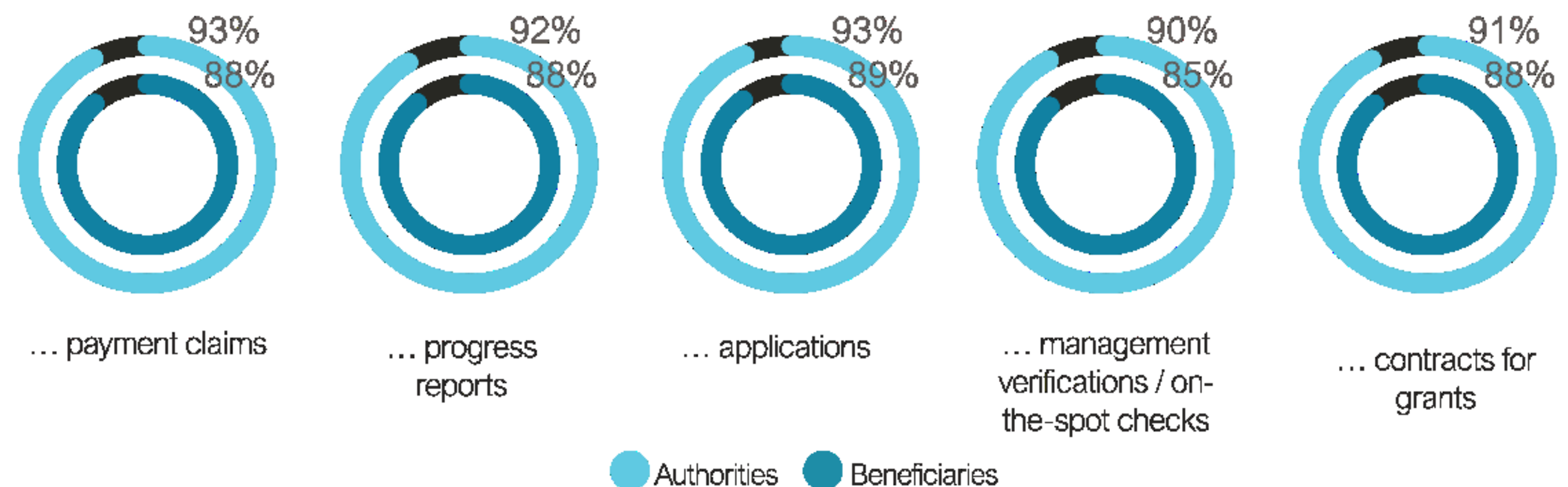
Efficiency (2)

Key messages

▪ Among the barriers affecting the efficient functioning of e-Cohesion systems, **limited interoperability represents a key issue**. In addition, a lack of harmonisation and simplification can be highlighted as an overarching challenge affecting several areas of e-Cohesion and resulting in burdens for both authorities and beneficiaries.

▪ An approach of continuous, evolutionary development represents an overarching success factor relevant to the efficient functioning of e-Cohesion systems that can minimise efforts during their introduction and operation.

Relevance of external barriers to the efficient functioning of e-Cohesion systems (survey of authorities)

Barrier	Very relevant	Somewhat relevant	Not very relevant	Not relevant at all
Lack of interoperability with other systems and registers (N=360)	31%	42%	18%	10%
Lack of digital skills among beneficiaries (N=361)	14%	40%	34%	11%
Lack of relevant legal frameworks (e.g. for electronic signatures) (N=350)	13%	26%	30%	30%
Lack of (or insufficiently developed) overall digitalisation strategy at regional/national level (N=344)	13%	33%	34%	20%
Lack of user-friendliness of the system (N=386)	13%	31%	39%	17%
Lack of legal validity of verification documents (N=305)	12%	22%	38%	28%
Outdated IT infrastructure (N=356)	12%	27%	36%	26%
Cost of purchasing and renewing e-signature tokens and the administrative procedures in place for obtaining them (N=248)	11%	23%	38%	27%

■ Very relevant   ■ Somewhat relevant   ■ Not very relevant   ■ Not relevant at all

Share of authorities who considered particular success factors to be relevant to the efficient functioning of their e-Cohesion systems

87%	90%	93%	93%	94%	96%	96%
Having a centralised approach to the development and maintenance of the e-Cohesion system	Integration of end users into the development of the system	Having a harmonised and streamlined approach to the management of OPs at national/regional level	Steady evolution of the system (rather than rapid development and changes)	Making the use of the electronic data exchange systems mandatory for beneficiaries	Taking into account programme-specific requirements when developing the system	Flexible/agile approach to the development of the system

EU added value

The EU added value criterion explores whether the e-Cohesion initiative, as outlined in the CPR and the Implementing Regulation, has contributed to the development or improvement of national/regional electronic data exchange systems, or has resulted in wider spill-over effects.

Key messages

- Evidence on the EU added value is somewhat limited.

- The **key aspects of EU added value include the introduction of some e-Cohesion systems in member states where it did not exist previously, as well as the contribution to the continuous improvement of existing systems**. The latter is, according to our findings, the most common outcome of e-Cohesion.

- Additional perspectives of EU-added value range from the increased use and coverage of e-Cohesion systems, to positive spill-over effects into other policy contexts with the development of electronic data exchange systems to accommodate national/regional as well as other EU funds and schemes.

➢ Most of the systems were created after the introduction of the CPR of the e-Cohesion initiative in December 2013

| 11% | 63% | 26% |

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ Before 2014 (N=12) ■ 2014 and after (N=68) ■ Unknown (N=28)
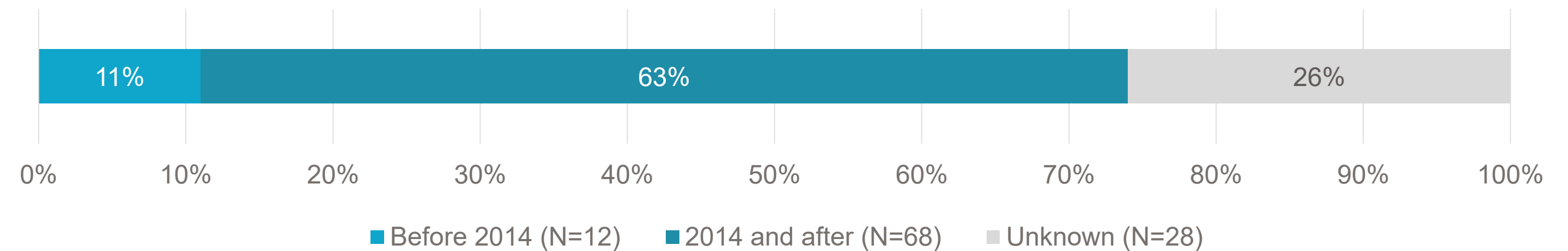
➢ 44% of authorities surveyed answered that the e-Cohesion initiative either led to the creation or further development of the e-Cohesion system.

➢ **At least three-fourth of authority respondents agree that the e-Cohesion initiative** supported innovation and the transfer of ideas between policy contexts.

75%

77%

76%
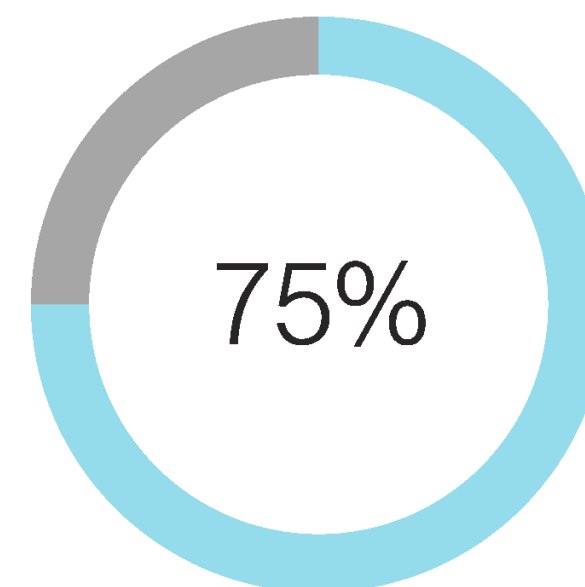
e-Cohesion-related requirements inspired and were applied to other non-cohesion policy programmes and instruments (N=104)
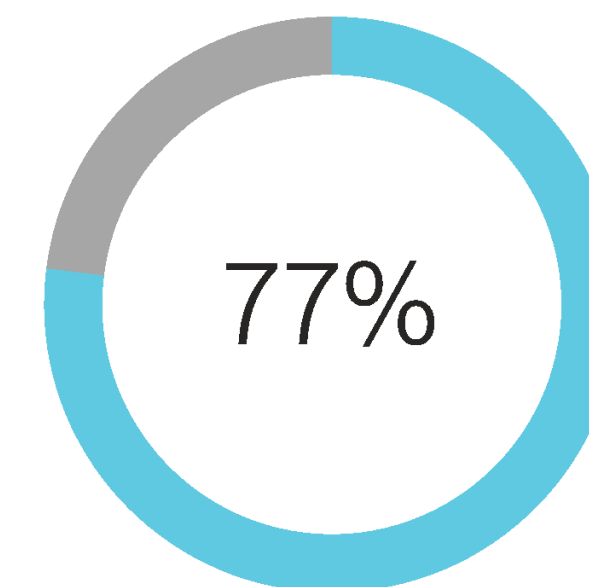
Lessons learnt from the e-Cohesion initiative led to similar national/regional electronic data exchange systems being set up for other EU or national funds (N=108)
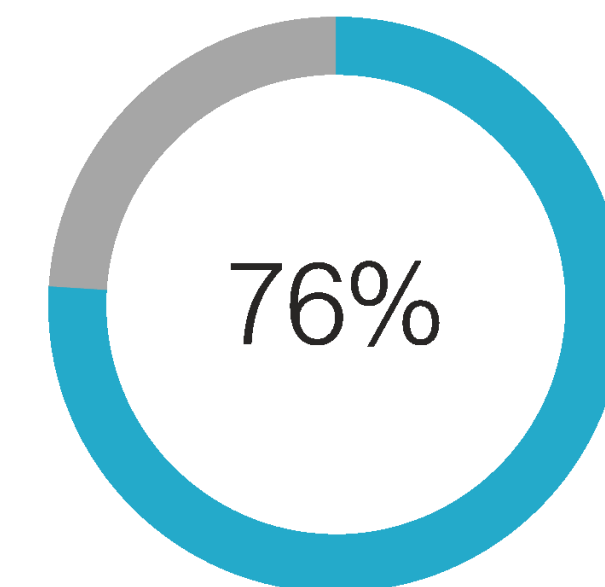
Audits carried out by the EU Commission of the functioning of management and control systems provided valuable recommendations for improving the e-Cohesion systems (N=125)
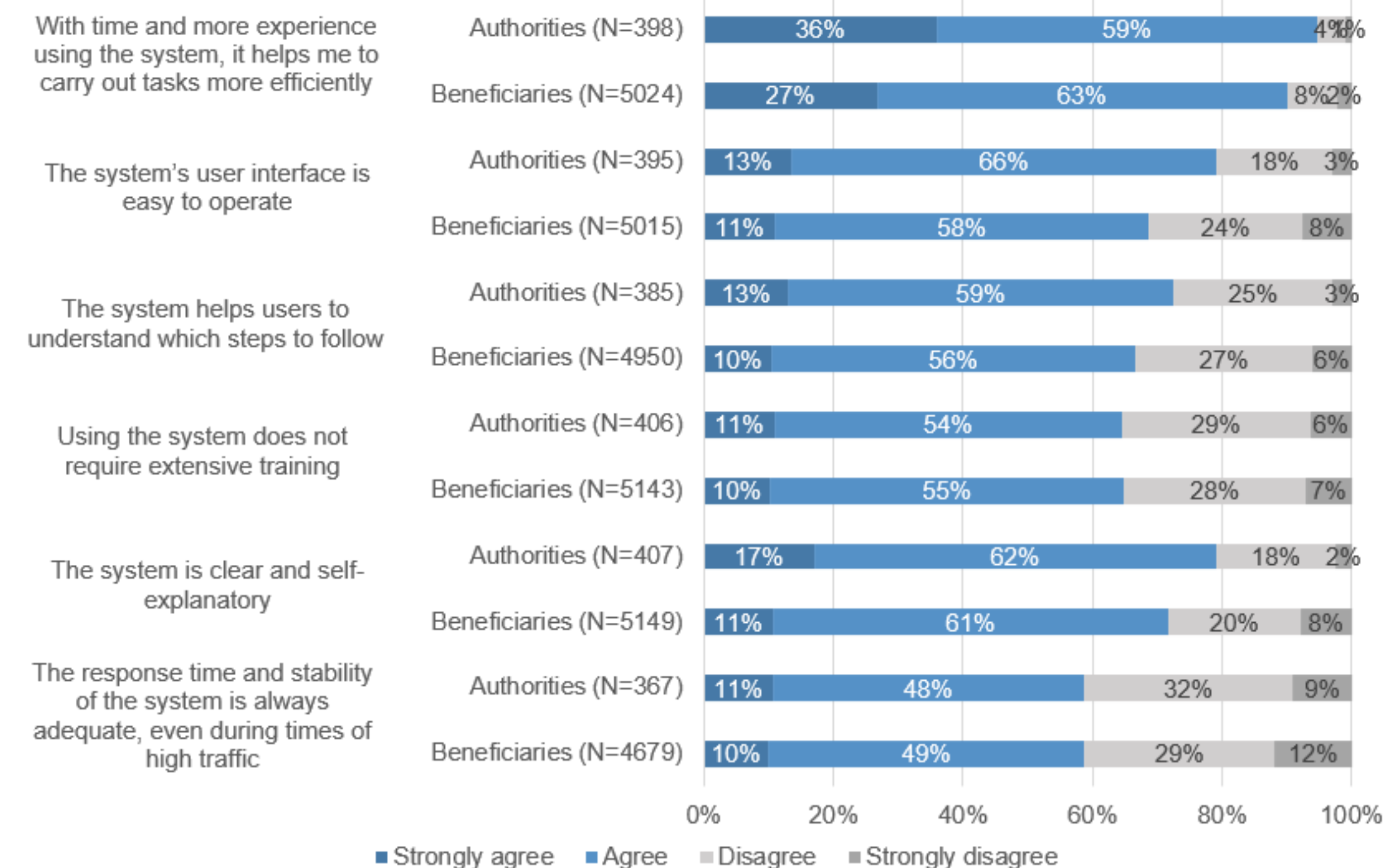
User-friendliness

User-friendliness refers to the extent to which e-Cohesion systems are perceived as sufficiently intuitive, easy to use, self-descriptive, interactive, appealing, timesaving, and otherwise maximise value for their users when handling the exchange and management of data, documents and information.

Key messages

▪ e-Cohesion systems overall exhibit a **high degree of clarity, ease of use and self-descriptiveness**, however, there remains significant variation among different systems.

▪ Nearly all e-Cohesion systems support key functionalities closely associated with user-friendliness and users overall are highly satisfied with them.

▪ Based on the results of the surveys, most users perceive help functionalities and helpdesk services as valuable and are happy with the support they provide, but chat functionality missing.
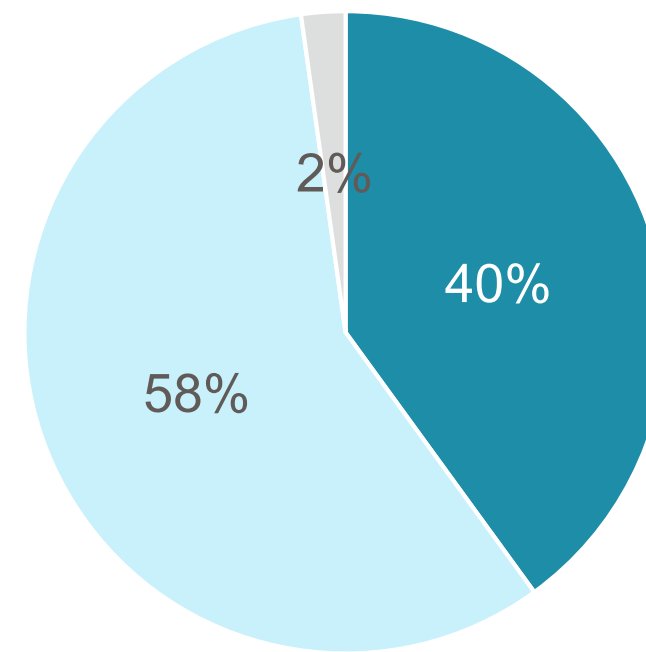
- extensive user-friendliness (100%-75%)
- moderate user-friendliness (75%-50%)
- limited user-friendliness (50%-0%)

Pie chart values: 40%, 58%, 2%

Statement	Group	Strongly agree	Agree	Disagree	Strongly disagree
With time and more experience using the system, it helps me to carry out tasks more efficiently	Authorities (N=398)	36%	59%	4%	1%
	Beneficiaries (N=5024)	27%	63%	8%	2%
The system's user interface is easy to operate	Authorities (N=395)	13%	66%	18%	3%
	Beneficiaries (N=5015)	11%	58%	24%	8%
The system helps users to understand which steps to follow	Authorities (N=385)	13%	59%	25%	3%
	Beneficiaries (N=4950)	10%	56%	27%	6%
Using the system does not require extensive training	Authorities (N=406)	11%	54%	29%	6%
	Beneficiaries (N=5143)	10%	55%	28%	7%
The system is clear and self-explanatory	Authorities (N=407)	17%	62%	18%	2%
	Beneficiaries (N=5149)	11%	61%	20%	8%
The response time and stability of the system is always adequate, even during times of high traffic	Authorities (N=367)	11%	48%	32%	9%
	Beneficiaries (N=4679)	10%	49%	29%	12%

- Strongly agree
- Agree
- Disagree
- Strongly disagree

What makes a good e-Cohesion system?

Aspects and actions for a successful e-Cohesion system

Development	▪ **Evolutionary development approach** – characterised by a high degree of prototyping, continuous improvements, and frequent releases of new versions. ▪ **User-centric approach** – systematic collection of user feedback, user involvement in testing prototypes for new features, consideration of user needs. ▪ **Versatile development team** – the combination of it skills (may involve procurement of private software developer) and knowledge of programme implementation.
Legal aspects	▪ **Elimination of paper-based parallel processes** – by making the use of the system mandatory or the sole official solution, it eliminates the necessity to maintain parallel processes, and incentivises authorities to provide solutions of high usability.
Key requirements	▪ **Supports the exchange of structured data** – the mere upload of unstructured data (e.g. forms as pdf-files) inhibits further data processing. ▪ **Data centralisation** – by supporting all key processes (including those not yet outlined in minimum requirements, e.g. applications, change requests and communication features), all project-related information is centrally accessible in one place. ▪ **Interoperability beyond programme level** – allows for the fulfilment of once-only encoding, and the extraction and verification of information on a wider scale.
Usefulness	▪ **Provision of integrated e-signature feature** – offers the advantage of fully paper-free processes that reduce the effort required for transport and storage. ▪ **Addresses the processes that require the most effort** – offers efficient support for activities that would otherwise cause the most administrative burden (capturing expenses, handling supporting documents). ▪ **Offers flexibility** – users can complete tasks according to their preferences.
User-friendliness	▪ **Self-descriptiveness and help features** – given that most beneficiaries do not use the system often, functionalities such as tooltips, etc. help users to navigate the system. ▪ **Automatically embedded validation and automatic calculations** – helps to verify the information and reduce error rates, which reduces administrative burdens for both beneficiaries and institutional users. ▪ **Provides appropriate performance and stability** – has appropriate server capacities to provide sufficient response time.

Key challenges and potential solutions

CHALLENGE NO. 1

Ensuring effective interoperability with other systems and registers (challenging standardisation and harmonisation to a certain degree; challenging connectedness of interface solutions)

Potential solution no. 1.1: Aim to establish once-only encoding at a system-crossing level.

- Establish interface connections to external systems, e.g. government registers, national databases, other services;

- Make use of the provided statistics, business information, addresses, etc.

Potential solution no. 1.2: Harmonise and simplify concepts (names, definitions, descriptions); structures (roles); processes (workflow); tools (forms, templates, documentation); and rules (business logic).

- Unified management and control system; other initiatives to coordinate standardisation (such as HIT developed for Interreg programmes);

- Standardised names, definitions, roles, workflows, forms, templates, rules.

Ensuring effective interoperability with other systems and registers (challenging standardisation and harmonisation to a certain degree; challenging connectedness of interface solutions)

Potential solution no. 1.3: Offer enough flexibility to address programme and call specific requirements.

- Means of flexibility: configuration, plug-ins, openness to adaptations and extensions;

- Remaining differences considering rules, processes, and information demands.

Potential solution no. 1.4: Focus on the exchange and integration of structured data; do not merely consider the exchange of unstructured documents (such as pdf-files and other office documents).

- Define the data scheme in a process-crossing way; interfaces (exchange of data records) allowing real-time synchronisation of transactional data;

- Seamless processing, accessibility.

CHALLENGE NO. 2

Complexity and dynamic change (development and maintenance of an e-Cohesion system is a complex task; meeting deadlines in combination with requirements that occur late in the development process need to be tackled)

Potential solution no. 2: Aim to provide an effective solution that covers all relevant e-Cohesion processes of information exchange.

- Keep in mind that project selection (application) and implementation are strongly interrelated;
- Cover financing (i.e., different financing sources and changes of financing rates during project realisation), withdrawals and recoveries appropriately;
- Provide the possibility to upload and exchange digitised supporting documents, as these are necessary for verification and audits;
- Provide powerful communication features to replace exchange via e-mail;
- Establish a single point of exchange for data and information.

CHALLENGE NO. 3

Growing user expectations (increasing skills in working with the respective systems also results in higher expectations, a lot of communication, and demand for access to analytical data and functionalities).

Potential solution no. 3.1: Be user-centric, aim for high user-friendliness and efficiency.

- Aim to increase process efficiency, faster process throughput and less repetition for processes that cause the most administrative burden;

- Prioritise the development of desired features based on cost and benefits. Involve users of all types in development. Provide continuous improvements, collect, analyse and consider user feedback also during usual operation times;

- Increase user-friendliness by offering a solution with a clear structure, a high degree of self-descriptiveness and easy navigation. Offer appropriate help functionality, documentation, and user support;

- Provide enough room for flexibility, so that users can execute actions in an order that fits their needs and preferences.

CHALLENGE NO. 3

Growing user expectations (increasing skills in working with the respective systems also results in higher expectations, a lot of communication, and demand for access to analytical data and functionalities).

Potential solution no. 3.2: Aim for excellent user experience by offering the functionalities that maximise the benefits for users.

- Ensure that the system offers appropriate performance and stability in periods of high traffic. Consider using cloud-based server infrastructures that provide high scalability;

- Features should be provided such as tooltips and client-side validation checks that offer users immediate feedback regarding missing and wrong values;

- Introduce the calculation of lump sums and flat rates as part of automatic calculations. Also, provide support for staff cost calculations and procurements management;

- Provide beneficiaries with reporting and analysis features and access to project-crossing analytical information;

- Provide integrated access to all documents exchanged, and flexible retrieval functionalities, allowing full-text search and the application of Boolean expressions;

- Set up a dedicated chat function for communicating to all categories of users, including authorities, when needed.

CHALLENGE NO. 4

Legal aspects (uncertainties regarding the implementation of technical solutions to replace the necessity for handwritten signatures still represent a barrier for some decision-makers; uncertainties also exist with regard to data privacy and GDPR).

Potential solution no. 4: Provide powerful system features to ensure legal compliance

- Provide an easy-to-use e-signature feature to replace the necessity for handwritten signatures;
- Provide functionality for the handling and archiving of unstructured supporting documents;
- Apply appropriate technical and organisational measures (data security, privacy).

CHALLENGE NO. 5
Availability of versatile staff (demands both IT skills and knowledge of programme implementation).

Potential solution no. 5: Aim for an appropriate combination of IT skills and knowledge of programme implementation.

- Make use of state-of-the-art technologies;

- Implement a flexible IT architecture;

- Draw on lessons learned; follow a long-term strategy to build up crucial IT skills and business knowledge of programme implementation;

- Follow an evolutionary and agile development approach.

Conclusion

Summary of key findings

- **E-Cohesion is widely implemented**; we identified 108 e-Cohesion systems, which are used for the overwhelming majority of ERDF and CF funded programmes. Out of the 302 OPs analysed, only eight OPs (four national, four Interreg) do not have a dedicated e-Cohesion system.

- **The e-Cohesion systems in place meet the key requirements provided by the CPR and CIR for the 2014-2020 programming period**. The survey findings indicate that the systems are widely used, especially so for project implementation activities, especially handling payment claims and progress reports.

- **The overwhelming majority of users agree that using e-Cohesion systems represents an improvement in all aspects of information exchange between beneficiaries and programme authorities**. Around 80% of all beneficiary and authority survey respondents agree that compared to paper-based processes or email exchanges, the exchange of data through e-Cohesion systems has resulted in a faster exchange of information and that the benefits of e-Cohesion exceed any associated costs.

- **A few challenges remain to ensure that users fully reap the benefits of e-Cohesion**;

  o To varying extents, parallel exchanges of information still take place (using e-mail, paper, etc.), especially with information related to audit-related activities, such as management verifications and on-the-spot checks.

  o Extending interoperability beyond the programme level to the national and the EU level is another vital area for improvement. According to authorities that replied to our survey, establishing interconnections with external applications, registers, and databases, represents the most important challenge for the 2021-2027 programming period.

Thank you!

- Any questions and discussion points?

Thank You for the attention!

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