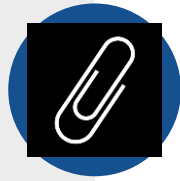


A background network diagram consisting of interconnected nodes and lines. The nodes are represented by circles of varying sizes and colors (red, grey, black), and the lines are thin, dark grey or black. The overall pattern is a complex web of connections.

Study on the monitoring data on ERDF and Cohesion Fund operations, and on the monitoring systems operated in the 2014-2020 period

Main findings

Outline

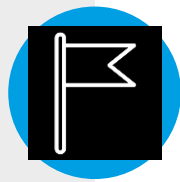


Background



Findings

- Structure and efficiency of monitoring systems
- Quality and reliability of monitoring data
- Data usability and relevance at EU level



Concluding remarks



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Background to the study

Background to the study

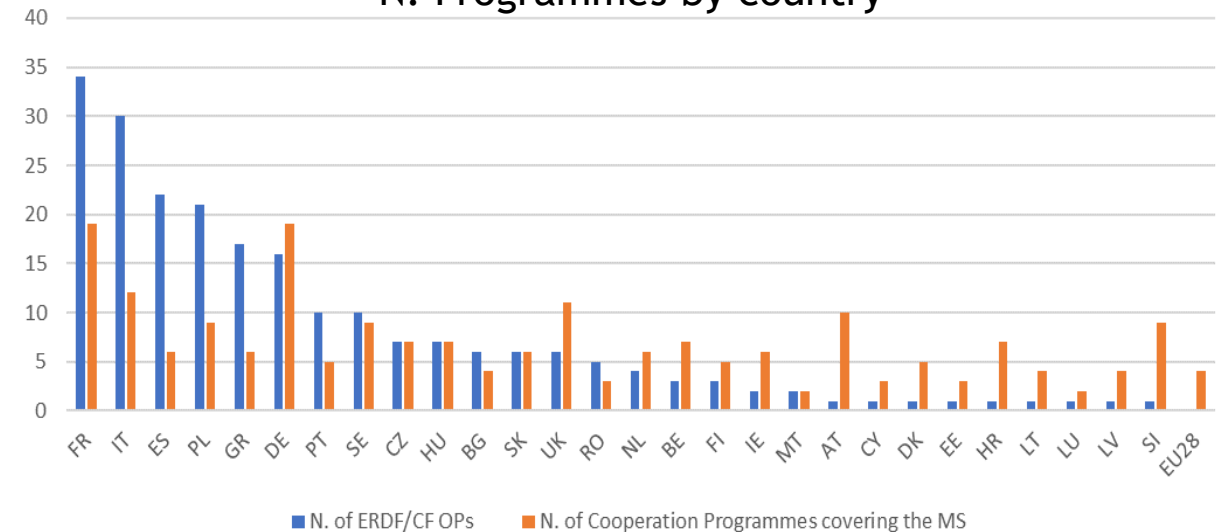
Objectives

1. Understand the functioning of the programmes' monitoring system and assess the data reliability, to inform the preparation of 2021-2027 monitoring activities
2. Provide reliable, robust expenditure and monitoring data that will serve the basis of the ex-post evaluation of the 14-20 Cohesion Policy programmes

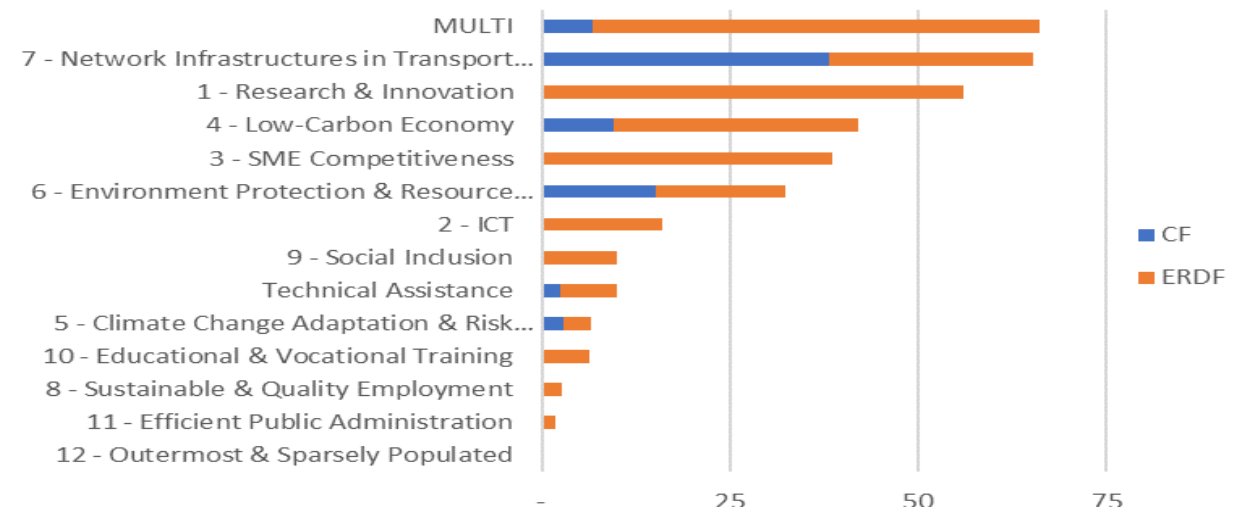
Scope

- 220 OPs (ERDF/CF) and 76 Cooperation programmes (ERDF) of the 2014-2020 period
- All Member States (EU28)
- All Thematic Objectives

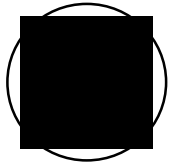
N. Programmes by country



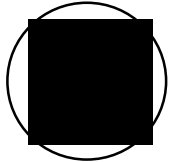
EUR billion by Thematic Objective



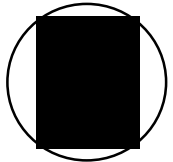
Outputs of the study



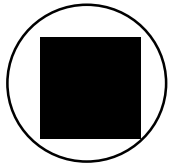
Single database on expenditure incl. typologies of operations & beneficiaries



Database on common output indicators



Dataset on selected, relevant programme specific indicators



28 Country Sheets on the systems' functioning

DB_Beneficiaries.csv		DB_Operations.csv		DB_Output_Indicators.csv (preliminary structure)	
1. General information	[...]	1. General information	Language, currency, cut-off date and date of update	1. General information	[...]
2. Operational/Cooperation programme and operation identification	CCI number	2. Operational/Cooperation programme identification	CCI number and OP short title	2. Operational/Cooperation programme and operation identification	CCI number
	Official operation Identification Code		Other information on the programme (e.g., territorial scope, etc.)		Official operation Identification Code
	Official and ad-hoc operation code		Official operation Identification Code		Official and ad-hoc operation code
	Operation name	3. Operation identification	Official and ad-hoc operation code		Operation name
3. Beneficiary identification	Beneficiary name		Operation name		Investment priority
	VAT code		Priority Axis, Specific Objective and OP action/measure		OP action/measure
	[...]		Call for proposals		Operation type
4. Intermediary and sub-intermediary organisation identification	Intermediary name and VAT	4. Operation's features	Operation status		[...]
	Sub-intermediary name and VAT		Operation summary		Indicator unique identifier
5. Beneficiary's characteristics	Type of beneficiary		EU Fund covered	3. Output indicator identification and background information	Financial information
	Size and ownership of beneficiary		Operation start and end date		
	[...]		Operation status		
6. Financial information on the beneficiary	Total eligible expenditure to the beneficiary (allocated and paid)	5. Operation's categorisation	Major project, Joint Action Plan, State aid, PPP, revenue-generating		
	Public eligible expenditure to the beneficiary (allocated and paid)		[...]		
	EU contribution to the beneficiary (allocated and paid)		EU categories (e.g., TO, IP, Field of Intervention, Form of Finance, Territory type, Territorial delivery mechanism, Economic activity, etc.)		
		6. Operation's financial information	Location of the operation (NUTS1, NUTS2, NUTS3)		
			Operation type		
			Total project cost		
			Total eligible expenditure (allocated and paid)		
			Public eligible expenditure (allocated and paid)		
			EU contribution (allocated and paid)		

Single database on expenditure incl. typologies of operations & beneficiaries and output indicators

High representativeness

- 215 national and regional programmes out of 217
- 73 Cooperation Programmes out of 76
- A total of 584,828 operations
- 722,787 direct beneficiaries and 437,083 final recipients
- Data on indicators for 421,629 operations, covering 85% of OPs

Scalability

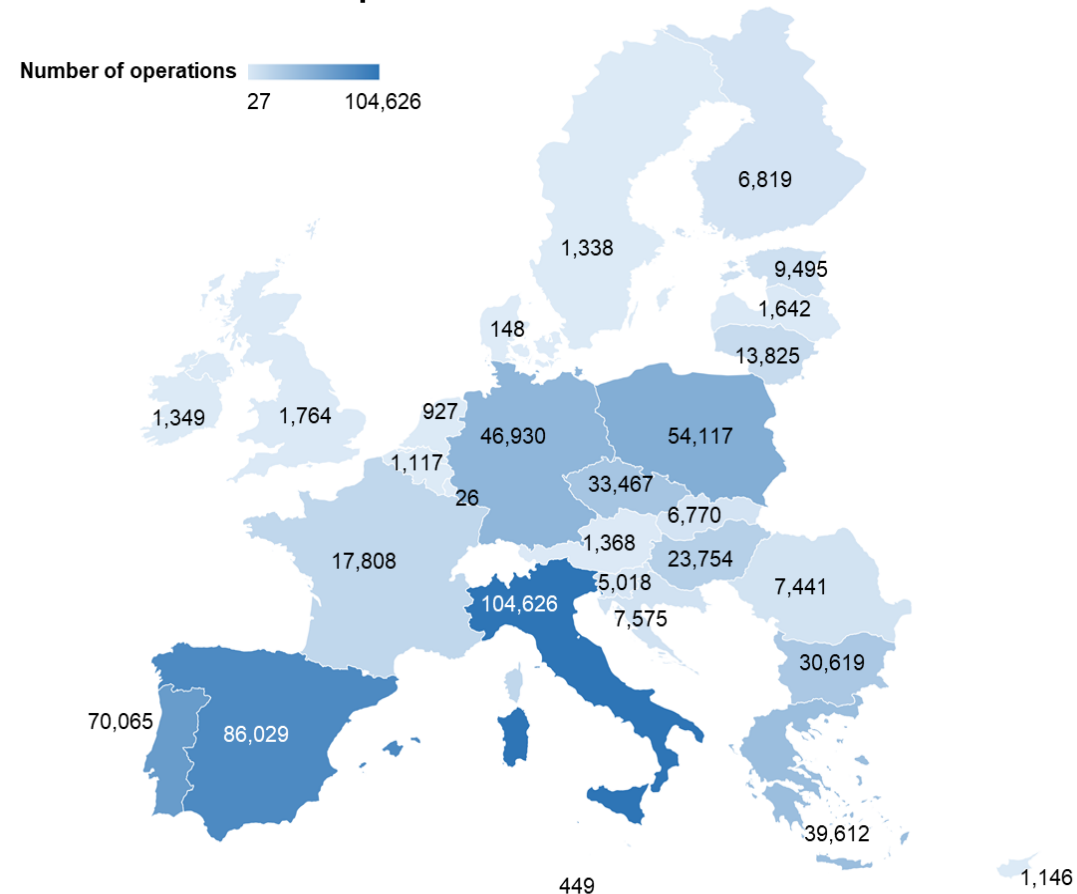
Data can be matched with external databases

- 1) ORBIS database
- 2) CORDIS database

Comparability

- Data cleaned and harmonized to allow aggregation and comparative analysis
- Additional information clarifying the nature and typology of operations and beneficiaries based on clustering techniques

Distribution of operations across MS

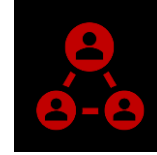


Potentials and limitations of the database



Thanks to the DB it is possible to:

- Filter, count and sum operations by country, region and NUTS (until level 3), and key features (e.g., Thematic Objective, Investment Priority, Field of Interventions);
- Filter, count and sum beneficiaries of operations, including direct beneficiaries, the final recipients of financial instruments or groups of projects, as well as other types of beneficiaries (e.g., partners in collaborating projects) according to their location, typology, size and NACE sector if they are enterprises and other key features.
- Filter, count and sum the outputs reported by country, programme and operations as well as the target and implemented values of outputs to measure operations achievements;
- Filter and sum financial resources allocated and paid, distinguishing by operation, beneficiary, indicator, programme and territory.



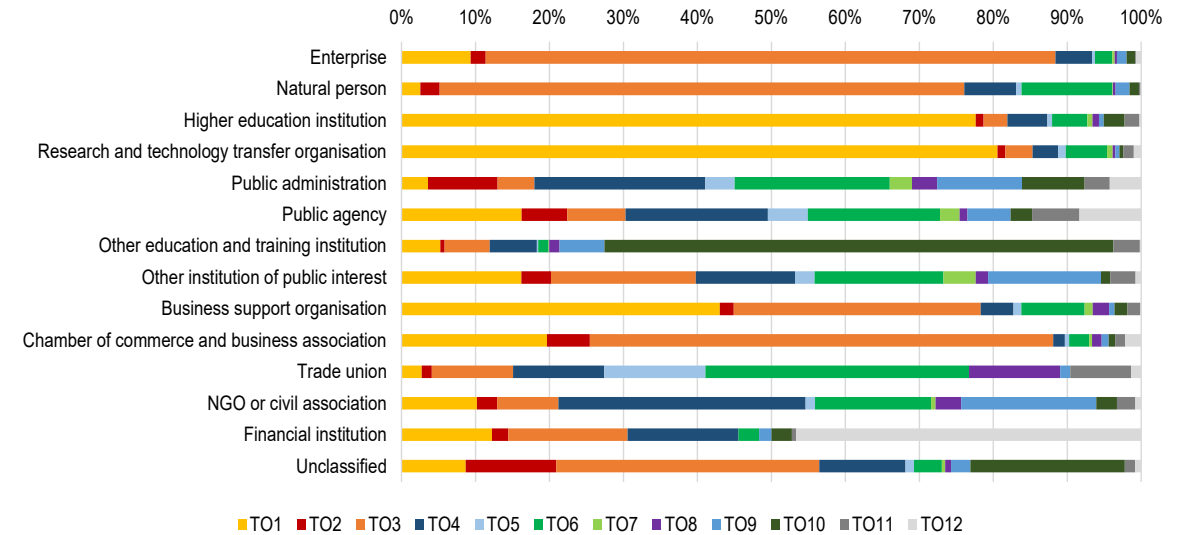
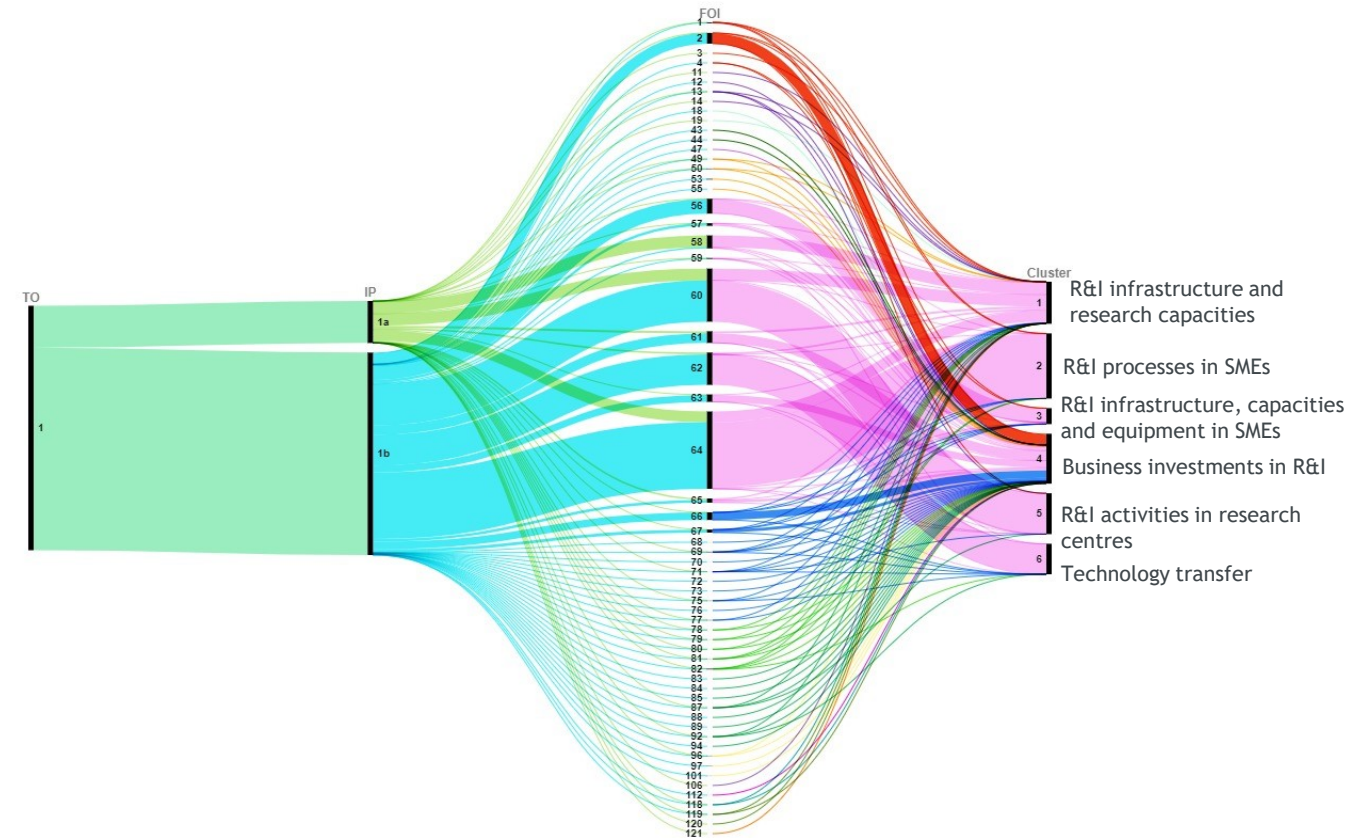
Handle data with care because:

- Data cannot be considered complete and data coverage is varied depending on countries and types of variables.
- While an operation corresponds to a project in most cases, this does not always hold true and not in all cases it was possible to flag the adopted definition of operation.
- To ensure compliance with the General Data Protection Regulation (GDPR), the name of the beneficiaries has been anonymised whenever it was provided for natural persons.
- The cut-off date is different, ranging from the end of December 2020 to July 2021.

Single database on expenditure incl. typologies of operations & beneficiaries and output indicators

Combination of IPs and Fols under TO1 - Strengthening research, technological development and innovation

Percentage distribution of different types of direct beneficiaries and final recipients across Thematic Objectives



TO2 - ICT



Findings on structure and efficiency of monitoring systems

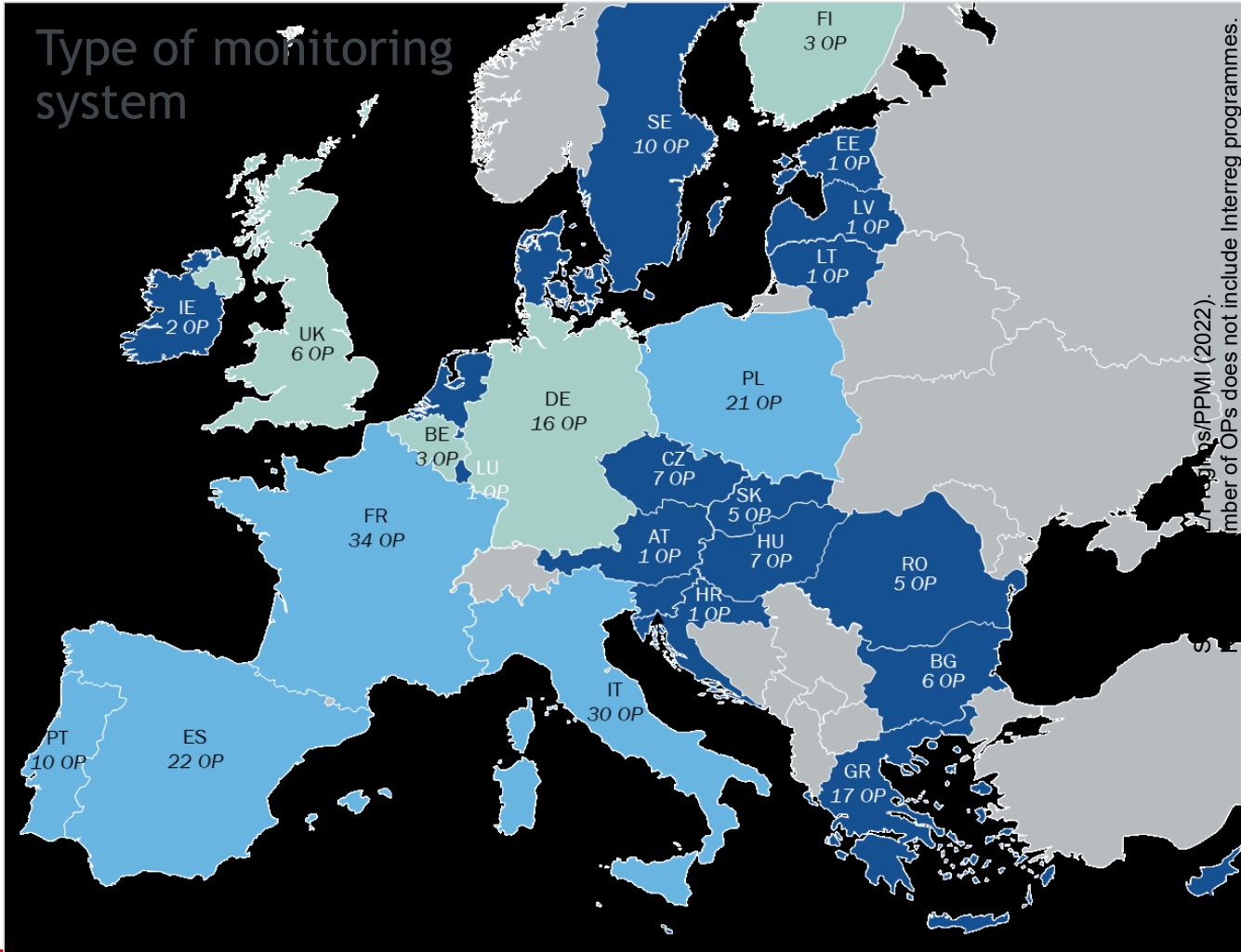
Overview table - key features of ERDF/CF monitoring systems

	AT	BE	BG	HR	CY	CZ	DK	EE	FI	FR	DE	GR	HU	IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SK	SI	ES	SE	UK
General information																												
Type of monitoring system	N	D	N	N	N	N	N	N	D	H	D	N	N	N	H	N	N	N	N	N	H	H	N	N	N	H	N	D
Number of OPs (consulted under T4)	1	3	6	1	1	7	1	1	2	32	16	16	7	2	22	1	1	1	1	4	21	10	4	5	1	22	10	4
Number of operations	~1k	~1k	~30k	~8k	~1k	~33k	148	~9k	~7k	~17k	~47k	~40k	~24k	~1k	~10k	~1k	~14k	26	449	927	~54k	~70k	~7k	~7k	~5k	~86k	~1k	~1k
Data management capacities and processes																												
Use of manual follow-ups	v	v	v	v	v	v	v	v	n/a	v	v	v	n/a	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Use of automatic plausibility checks	v	x	2/6	v	v	v	v	x	1/2	x	v	v	n/a	x	v	v	v	n/a	x	v	v	v	x	v	v	v	v	v
Use of predefined standard reports	v	v	v	x	v	2/7	v	v	v	30/32	14/16	v	v	v	9/22	v	v	v	v	n/a	17/21	v	v	v	v	v	v	v
Use of SCF 2014 interface connection	x	x	1/6	x	x	x	x	x	1/2	x	2/16	v	v	x	x	x	x	x	x	x	x	v	x	v	x	v	v	3/4
Arrangements for data collection and reporting systems																												
Use of monitoring handbook	v	v	v	v	v	v	v	v	1/2	30/32	15/16	15/16	v	v	21/22	v	v	v	v	v	v	9/10	v	4/5	v	v	x	3/4
IT-Functionalities																												
Use of e-cohesion system	x	v	v	v	v	v	v	v	1/2	30/32	10/16	v	v	v	20/22	v	v	v	v	v	v	v	v	v	v	v	v	v
Use of business intelligence system	x	1/3	x	x	v	v	v	v	1/2	11/32	5/16	15/16	v	x	11/22	v	v	v	x	x	v	4/10	1/4	x	x	15/22	9/10	1/4

Scoring: Used (= v) and not used (= x).

■ National monitoring system
 ■ Hybrid monitoring system
 ■ Decentralized monitoring systems

Key Finding #1: Possible discrepancies due to hybrid systems but at the same time promotion of more homogenous approaches possible

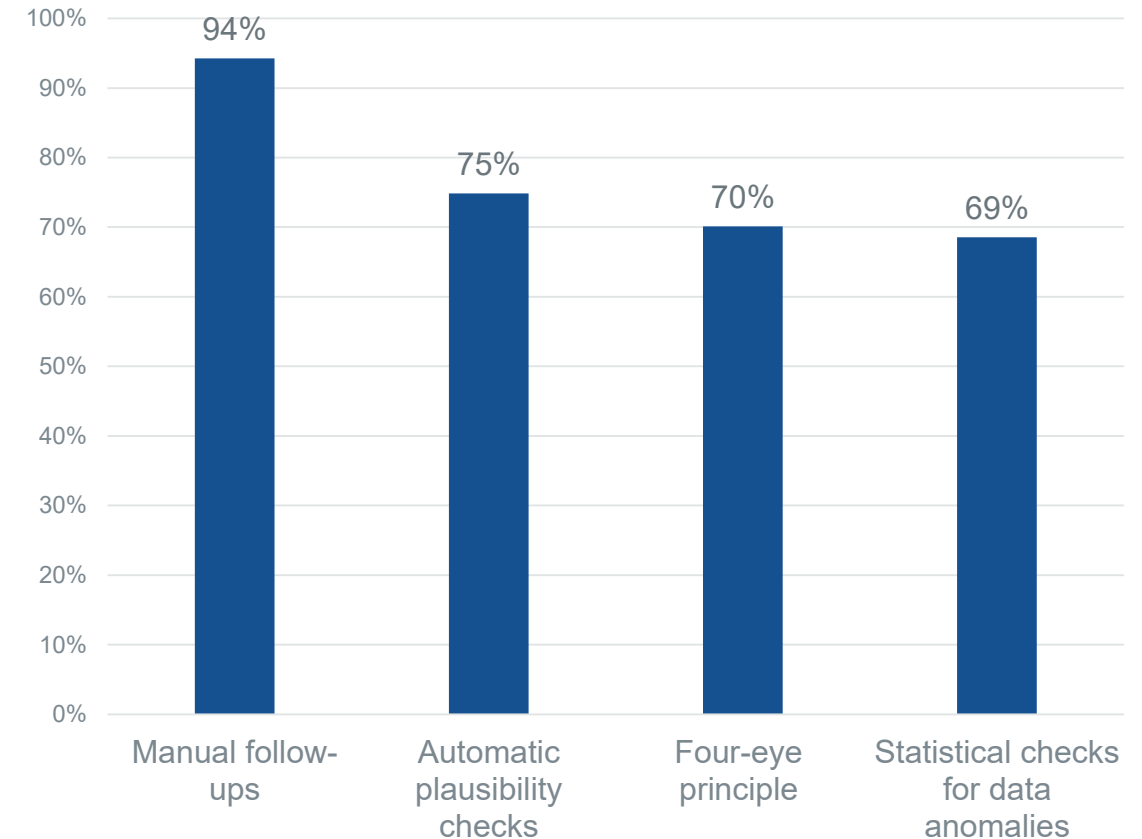


- Hybrid systems as combination of national system with own monitoring systems for the individual OPs, linked to the national system / periodically deliver data to national system
- In many cases, the national system & the OP monitoring systems were not aligned with each other → different data pools used for analytical purposes on the same territory & temporary misalignments possible
- Examples show that also some advantages concerning data reliability might result (e.g., by centrally provided information)

Key Finding #2: Control mechanisms are necessities to monitoring systems, but labour intensive and inefficient processes persist

- Manual follow-ups are the most frequently used control mechanisms across OPs although quite resource intensive & more prone to human errors.
- Considering limited staff resources this finding gains in importance.
- Especially with increasing amount of data, automatic checks reduce workload of monitoring staff.
- Reporting errors only detected to a small extent by control mechanisms.

Share of OPs using the following control mechanisms

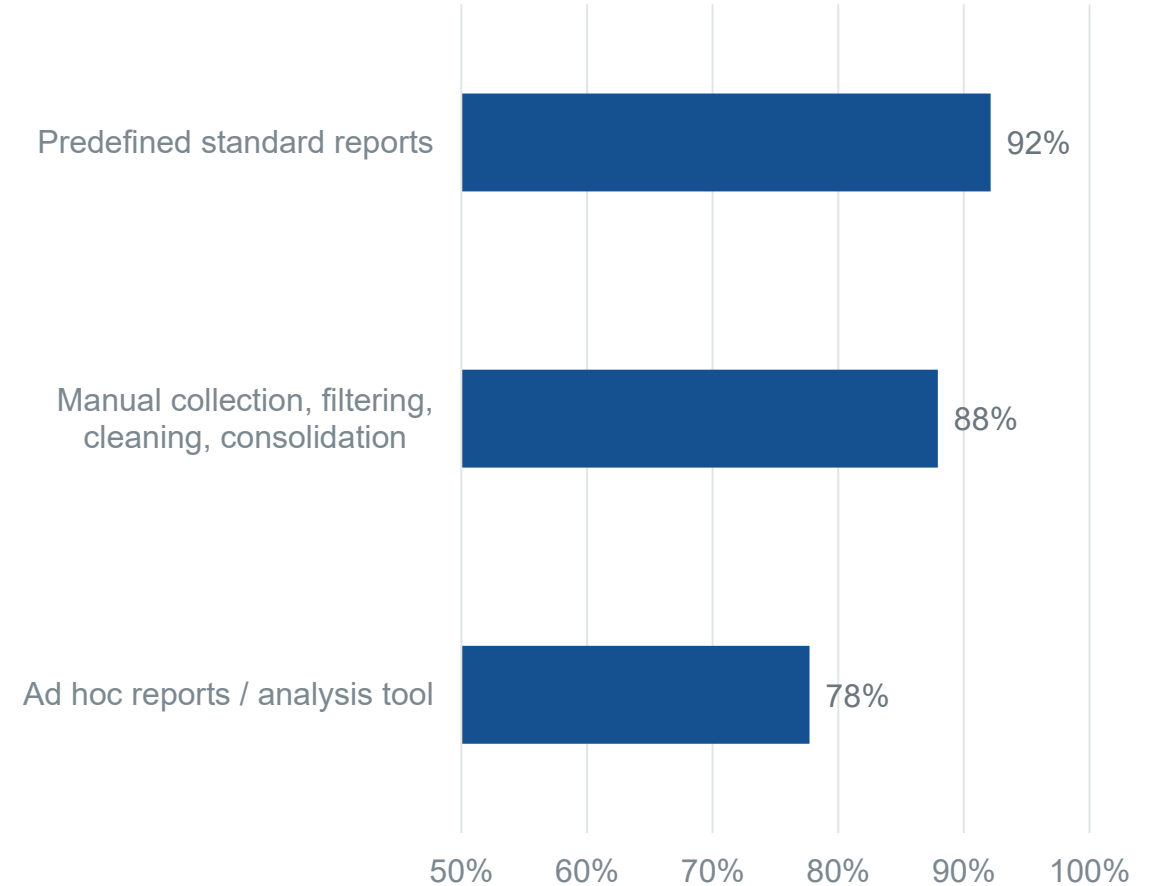


Source: CSIL/PPMI/Prognos (2022): Information is based on interviews with MAs, desk research and experts' assessment, n=192-195

Key Finding #3: Time-intensive activities for data reporting may result in mistakes or inaccuracies

- Predefined standard reports commonly used, but still a large share of OPs relies on manual procedures for data reporting.
- The possibility of transmitting data automatically via SFC2014 interface connection was only used in a limited number of cases: centrally in 6 and partially in 4 MS → manual entering in SCF dominates & might foster mistakes or inaccuracies
- With the stronger focus of reporting in 2021-2027, the importance of having time-efficient reporting mechanisms increases

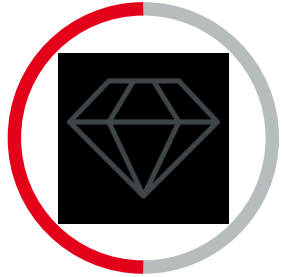
Share of OPs using the following reporting procedures





Findings on quality and reliability of monitoring data

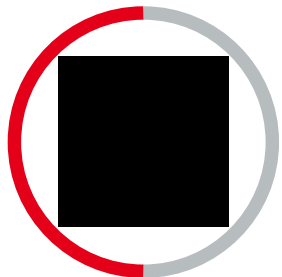
Key Finding #4: Despite complexity, monitoring systems fulfil the purpose of providing quality data to monitor ERDF and CF expenditures



A very rich and scattered set of data
Data are generated by over one million beneficiaries.
Include huge amounts of descriptive, categorical, and financial information

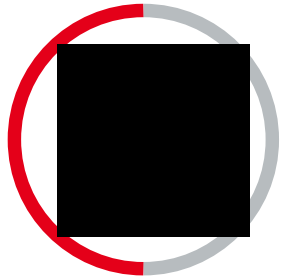


Accuracy of financial data is high
Analysis of data revealed only minor data quality issues that are more a reflection of the different designs of the monitoring systems or timing of update or different understanding of some definitions



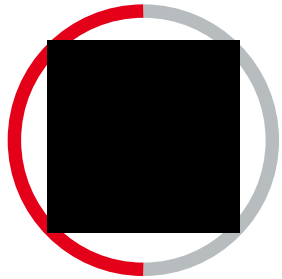
The reason is that financial data are subject to high scrutiny
An accurate representation of administrative procedures and expenditures is vital for the correct implementation of payments, reimbursement, certification, and audit.

Key Finding #5: Categorisation data are slightly less accurate than expenditure data since they are given lower priority by MAs



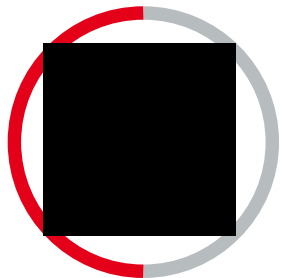
Occasionally incomplete

In a few cases, the data extractions provided for the study did not include the corresponding TOs or IPs under which the operations were classified



Unique vs multiple categories

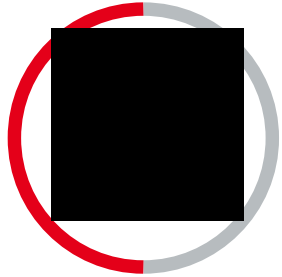
Difficult to categorise complex operations with many components and broad strategic scope



Efficiency gains are possible

The completeness and extractability of categorization data at project level within the IT systems can be improved. This could be beneficial in the light of higher reporting intervals in the 2021-2027 period

Key Finding #6: Gaps in beneficiary data may hamper transparency on the use of funds, especially for collaborative projects and intermediated instruments



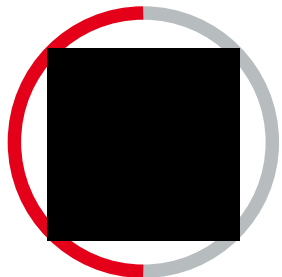
Limited data on final recipients of collaborative projects

In collaborative projects when payment is done through the lead partner, some of the systems do not collect data of all partners



No data on financial beneficiaries

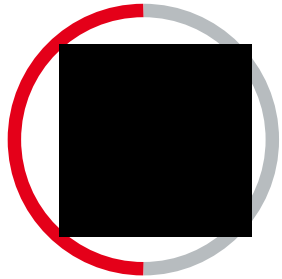
Final recipients of financial instruments is usually not included in the monitoring systems



Collecting data on final beneficiaries would increase accountability

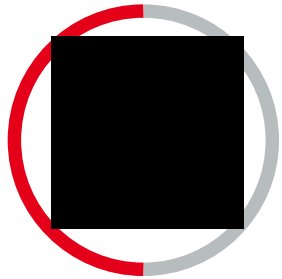
Lack of data on beneficiaries has no direct consequences for data quality and correct use of funds but there are important implications for accountability and evaluation

Key Finding #7: Differing interpretations & double counting can hamper reliability of achievements indicators at operation level



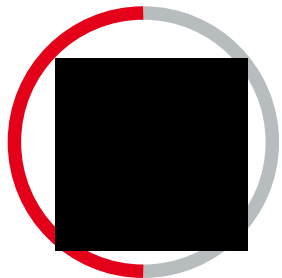
Definitions and calculation of CO

Some of them are perceived as having ambiguous definitions or foresee the calculation methodologies to be set up by the MAs.



Data generation is decentralized at project level

multiple beneficiaries report on the implemented values by manually entering the data using e-cohesion systems



Some indicators are not monitored at project level

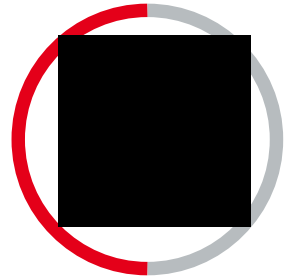
CO values are sometimes reported in AIRs based on national registers or data provided by statistical offices and cannot be retrieved directly from the monitoring systems at operation level.

Key Finding #8: Data reported in the AIRs are by large plausible, meaning that they represent correctly what is included in the monitoring systems



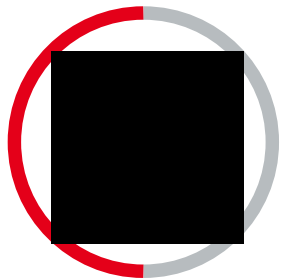
Plausibility check on expenditures

Data on implemented values reported in AIRs are of high quality and consistency level, ensured by the internal quality checks conducted by MAs and other actors of management and control systems



Plausibility check on indicators

89% of selected (i.e. contracted) values and 78% of implemented values of CO were assessed as plausible



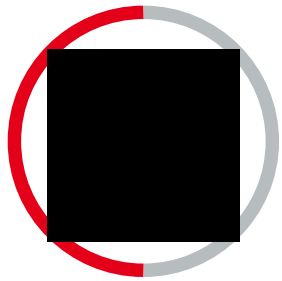
Higher implemented values than selected values in AIRs

Underlying reason for the discrepancy lies in the practice to estimate the selected values at operation level based on previous experience without updating the selected values during project implementation.



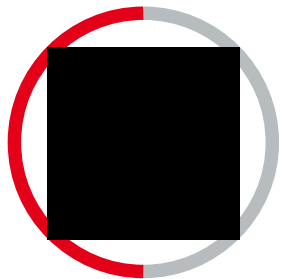
Findings on data usability and relevance at EU level

Key Finding #9: There is room for greater harmonisation to improve relevance of data at EU level



Interpreting data is not straightforward

National and regional authorities interpret the regulatory framework in different ways, which leads to a certain level of data fragmentation and incoherence



Consistency of aggregated data is hampered

There is room for a greater harmonization in order to fully exploit the possibilities of aggregation at EU level

Heavy data cleaning and harmonisation before aggregation

DATA CLEANING

Ensuring text in each cell is on one single line

Substitute characters not included in the UTF-8 encoding and correct typos in the spelling

Clean/attribute the current end date (expected for ongoing and actual for closed operations)

Coding the geolocation of operations and beneficiaries

Checking and consolidating financial data

DATA HARMONISATION

Harmonisation of the nature of the operation

Harmonise the format of the start and end date

Consistency checks and harmonisation of the VAT codes

Consistency checks and harmonisation of the beneficiary names

Harmonisation of standard categorisation code and labels across programmes (FoI, FoF, TT, TDM, EA, TO, IP) and consistency checks

Harmonisation of other variables used for the categorisation of operations and beneficiaries using a local classification

DATA ENRICHMENT

Translation of text variables

Attribution of the operation status on the basis of the end date of the operation, if the variable is missing

Consolidating scattered information to fill the gaps

Filling data gaps based on the information available from the SFC system

Filling data gaps based on the programme documentation

Extracting additional information from the ORBIS database

Extracting additional information from the CORDIS database

Retrieve missing information/data from the public list of operations

Retrieve additional data/information from other variables of already included in the single database

OTHER

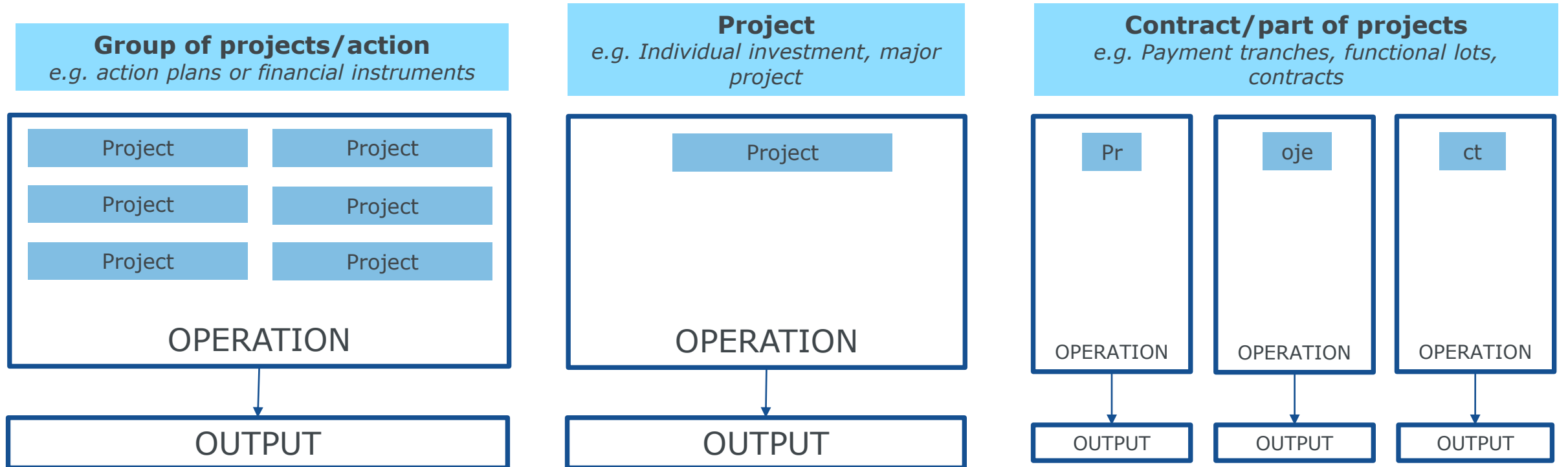
Creation of an additional single database of non-funded operations

Cluster analysis of operations

Interlinked activities have the box of the same colour, while those in grey are self-standing activities

Key Finding #10: Influence of different understandings or interpretations on data consistency in AIRs

E.g. Definition of 'operation'

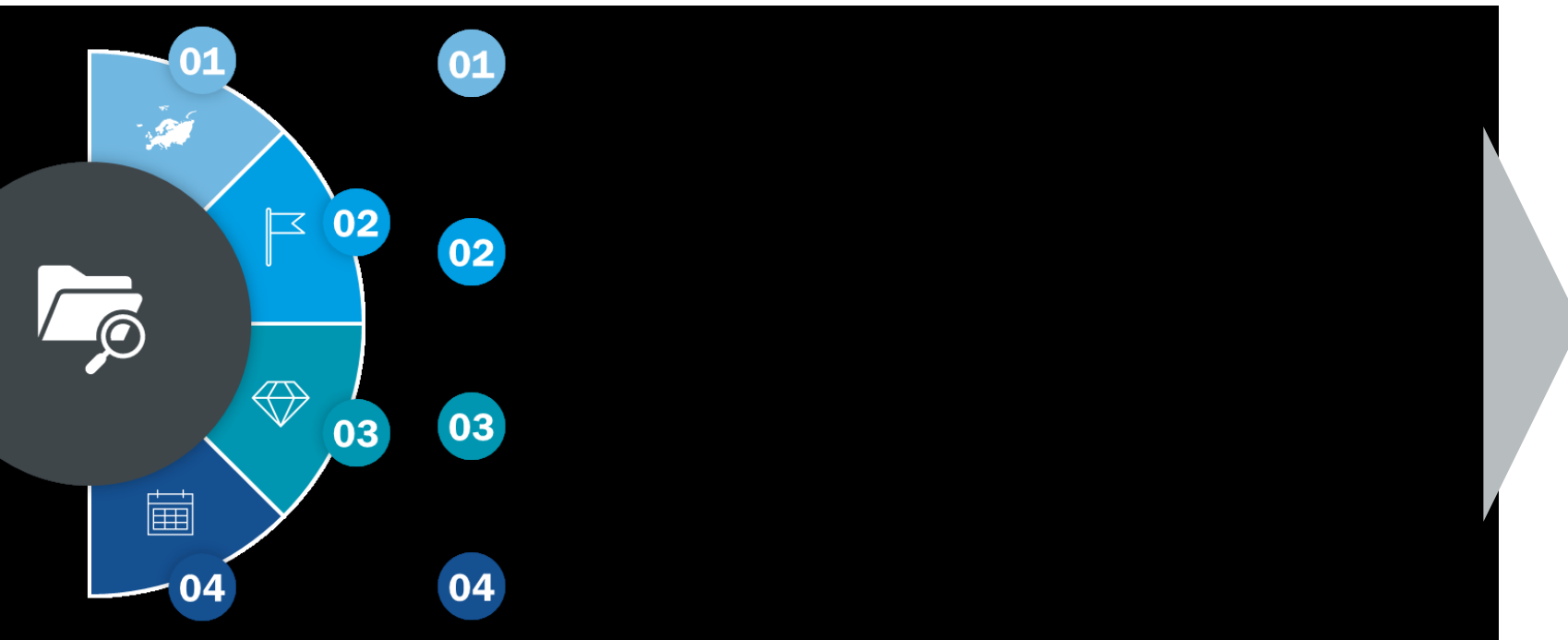




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Concluding remarks

Concluding remarks: a great potential still underexploited



But: some challenges ahead

1. More data transmission + Open data
2. No more AIR as a routine to review data quality in MAs
3. Need to recruit and retain IT skilled staff and master IT systems and transfer

Thank you very much for your
time!