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CONFERENCE OF EUROPEAN STATISTICIANS
ModernStats World Virtual Workshop 2020
27-30 October 2020

implementing shared statistical services

I3S - Implementing and sharing statistical services

Communication

STATISTICS PORTUGAL

Insee
Mesurer pour comprendre

« Shared SERVices » Project (SERV)

- **One of the implementation projects, defined in the ESS Vision 2020 programme**
- **Defines and implements the necessary preparations for developing and sharing generic software solutions among NSI and other ESS authorities.**
- **2 ESSNets**
  - **Sharing Common Functionalities in the ESS (SCFE, 2016-2017)**
  - **Implementing Shared Statistical Services (I3S, 2019-mid 2021)**

I3S Consortium Members

- Insee, coordinator
- Istat
- INE (Portugal)
- Stats Sweden
- Stats Norway

I3S Work Packages

- **WP1 – Develop new services**
- **WP2 – Define integration and architecture guidelines**
- **WP3 – Build a sandbox and test available services – containerise**
- **WP4 – Create and communicate success stories**
- **WP5 – Communication and Dissemination of Results**

List of shared services

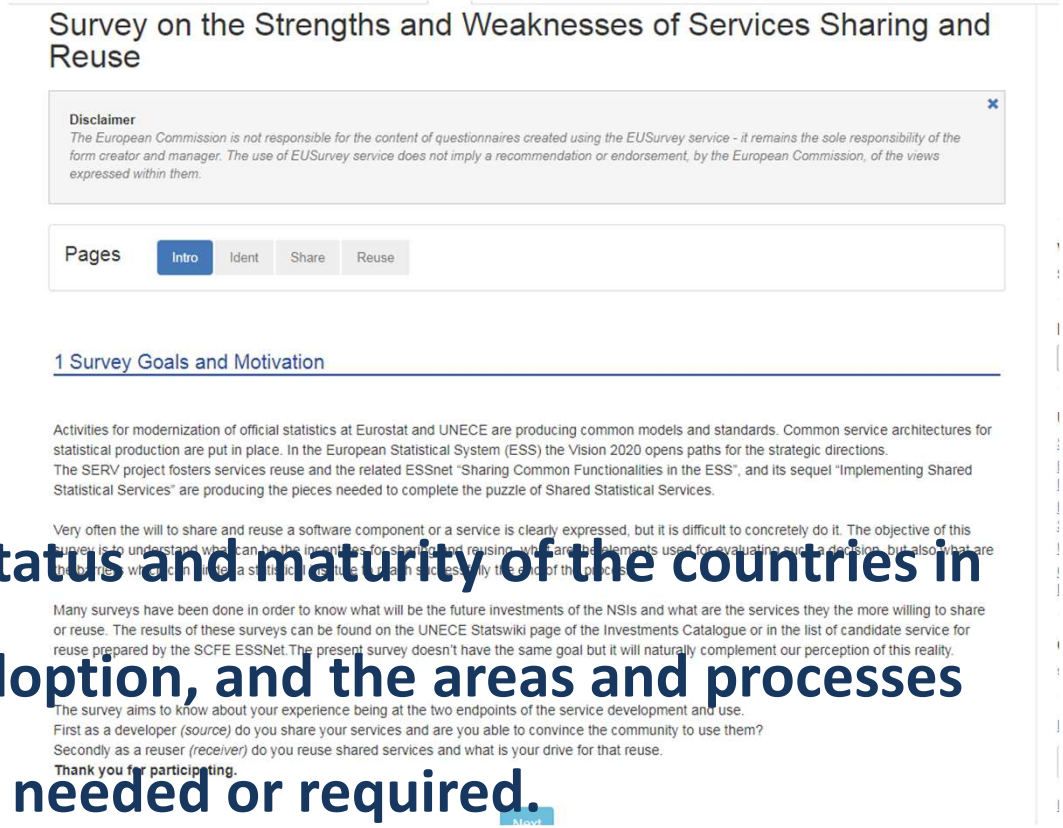
- **SCFE**
  - **Time Series Service (DO: France, RO: Germany)**
  - **Metadata Dissemination Service (DO: France-Insee, RO: France-CASD)**
  - **Questionnaire Generation Service (DO: France, RO: Slovenia)**
- **I3S**
  - **PXWeb (DO: Sweden, RO: Portugal, Norway)**
  - **ARC and VTL tools (DO: France, RO: Italy)**
  - **Record Linking (DO : Italy, RO : France)**

Communication Package – Main goals

- **Understand and counteract that there are far more statistical services developers than reusers in the ESS**
- **This ESSnet focus not only in developing shared services but also in enhancing its reuse**
- **Develop an adequate way to communicate the shared services availability to the statistical community.**
- **Understand the current status and maturity of the countries in the ESS toward service adoption, and the areas and processes where those will be most needed or required.**

Communication Package – Main goals

- **Understand and counteract that there are far more statistical services developers than reusers in the ESS**


Survey on the Strengths and Weaknesses of Services Sharing and Reuse

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Pages Intro Ident Share Reuse

1 Survey Goals and Motivation

Activities for modernization of official statistics at Eurostat and UNECE are producing common models and standards. Common service architectures for statistical production are put in place. In the European Statistical System (ESS) the Vision 2020 opens paths for the strategic directions.
The SERV project fosters services reuse and the related ESSnet "Sharing Common Functionalities in the ESS", and its sequel "Implementing Shared Statistical Services" are producing the pieces needed to complete the puzzle of Shared Statistical Services.

Very often the will to share and reuse a software component or a service is clearly expressed, but it is difficult to concretely do it. The objective of this survey is to understand what can be the incentives for sharing and reusing, what are the elements used for evaluating such a decision, but also what are the barriers which limit a strategic attitude. Learn successfully the end of the process.

Many surveys have been done in order to know what will be the future investments of the NSIs and what are the services they the more willing to share or reuse. The results of these surveys can be found on the UNECE Statswiki page of the Investments Catalogue or in the list of candidate service for reuse prepared by the SCFE ESSNet.The present survey doesn't have the same goal but it will naturally complement our perception of this reality.

The survey aims to know about your experience being at the two endpoints of the service development and use.
First as a developer *(source)* do you share your services and are you able to convince the community to use them?
Secondly as a reuser *(receiver)* do you reuse shared services and what is your drive for that reuse.
Thank you for participating.

Next

- **Understand the current status and maturity of the countries in the ESS toward service adoption, and the areas and processes where those will be most needed or required.**

3 Sharing a Statistical Service

3.1 In the process of sharing a service, what is the key reasons that you value more?
Choose one of the following:

- ○ Increasing community of users
- ○ Get help in the maintenance
- ○ Quality of the service (trustiness, robustness)
- ○ Improve the adherence to standards
- ○ Lower the burden for future developments and error correction
- ○ Never tried to share a service
- ○ Other

3.3 How frequently do you face challenges when you try to share services?
Choose one of the following:

- ◉ Never
- ○ In some cases
- ○ Always

3.5 Do you share statistical services in the ESS?
Choose one of the following:

- ◉ Yes
- ○ No

3.8 If yes (you do share) what kind of users of shared services do you have?
Choose from the following:

- ☐ Inside my own NSI
- ☐ Other NSIs
- ☐ Other National Statistical Authorities
- ☐ National Banks
- ☐ National Universities and Researchers
- ☐ International Statistical Authorities
- ☐ Other

3.5 Do you share statistical services in the ESS?
Choose one of the following:

- ○ Yes
- ◉ No

3.6 If not (you don't share), what is the top reason for not sharing?
Choose one of the following:

- ○ Doesn't comply with standards
- ○ It's not open source
- ○ Doesn't meet the required level of quality for external use
- ○ Architectural requirements
- ○ Not available to support it or solve errors
- ○ No adequate documentation to accompany it
- ○ It's not generic enough
- ○ Lacks interest to others
- ○ Other

Previous Next

4 Search for Service

4.1 In the process of reusing a service, what is the characteristic that you value more?

- ○ Community of users
- ○ Type of licence
- ○ Technology
- ○ Cost of implementation
- ○ Adherence to standards
- ○ Impact and size of the service
- ○ Never tried to reuse shared services
- ◉ Other

4.2 Which characteristic you value more?

4.3 Do you reuse any service that was made available in the ESS

- ◉ Yes
- ○ No

4.6 If yes (you do reuse), what are the main factors that made you reuse that service?

- ○ Compliance with standards
- ○ Low cost/resources
- ○ Ready to use solution
- ○ Technical qualities of the service
- ○ Trust in the service development and support
- ○ Organizational endorsement of the service
- ○ Large community of users
- ○ Good documentation and examples for reuse
- ○ Similitude with your own services/solutions
- ○ Existence of support team for the service
- ◉ Other

4.7 Which is the main factor that made you reuse a service

4.3 Do you reuse any service that was made available in the ESS

- ○ Yes
- ◉ No

4.4 If no (you don't reuse), what are the main factors that blocks you from reuse a shared service?

- ◉ Differences in requirements
- ○ Preference of a customized solution
- ○ Cultural differences
- ○ Internal policies
- ○ Lack of internal knowledge about the target service
- ○ Infrastructural differences make it complex or impossible
- ○ Low awareness to the available services
- ○ Distance and lack of interaction between service developers and your reuse team
- ○ Poor communication/documentation on how to reuse the service
- ○ Fear that support/error solving maybe not guaranteed in the future
- ○ Other

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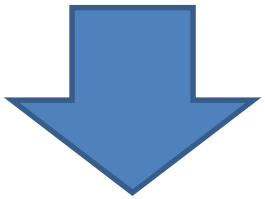
- **Not all countries answered the survey despite we did two attempts**



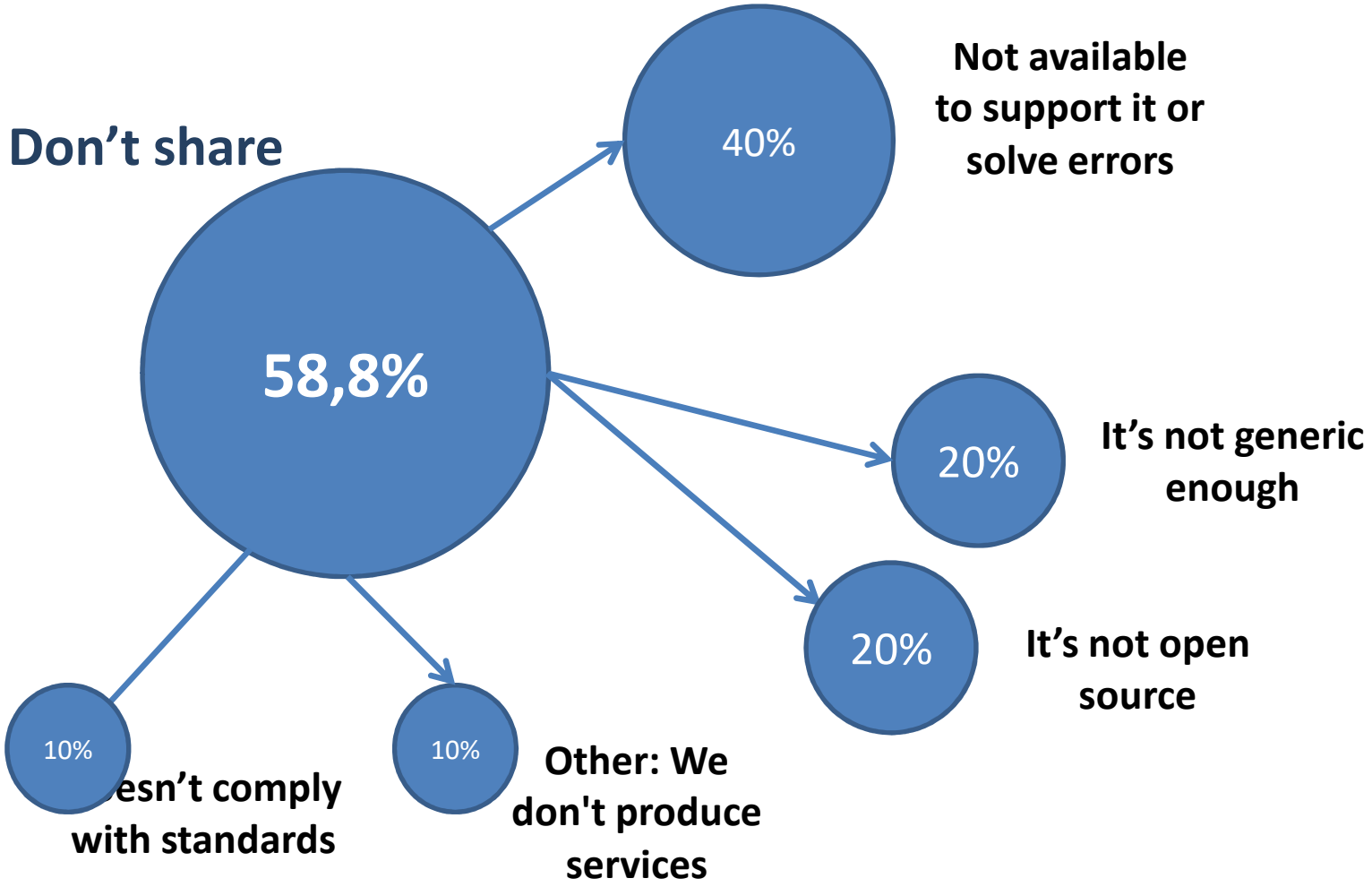
Difficulty to identify the community of managers

- **58,8% said that they reuse statistical services**
- **41,2% said that they share statistical services**

Observing the answers of each country, and knowing their status in term of reuse and share services we conclude that:

- **Managers are not aware that they are sharing or reusing tools**
- **There are some confusion on the concept of reuse or share services**

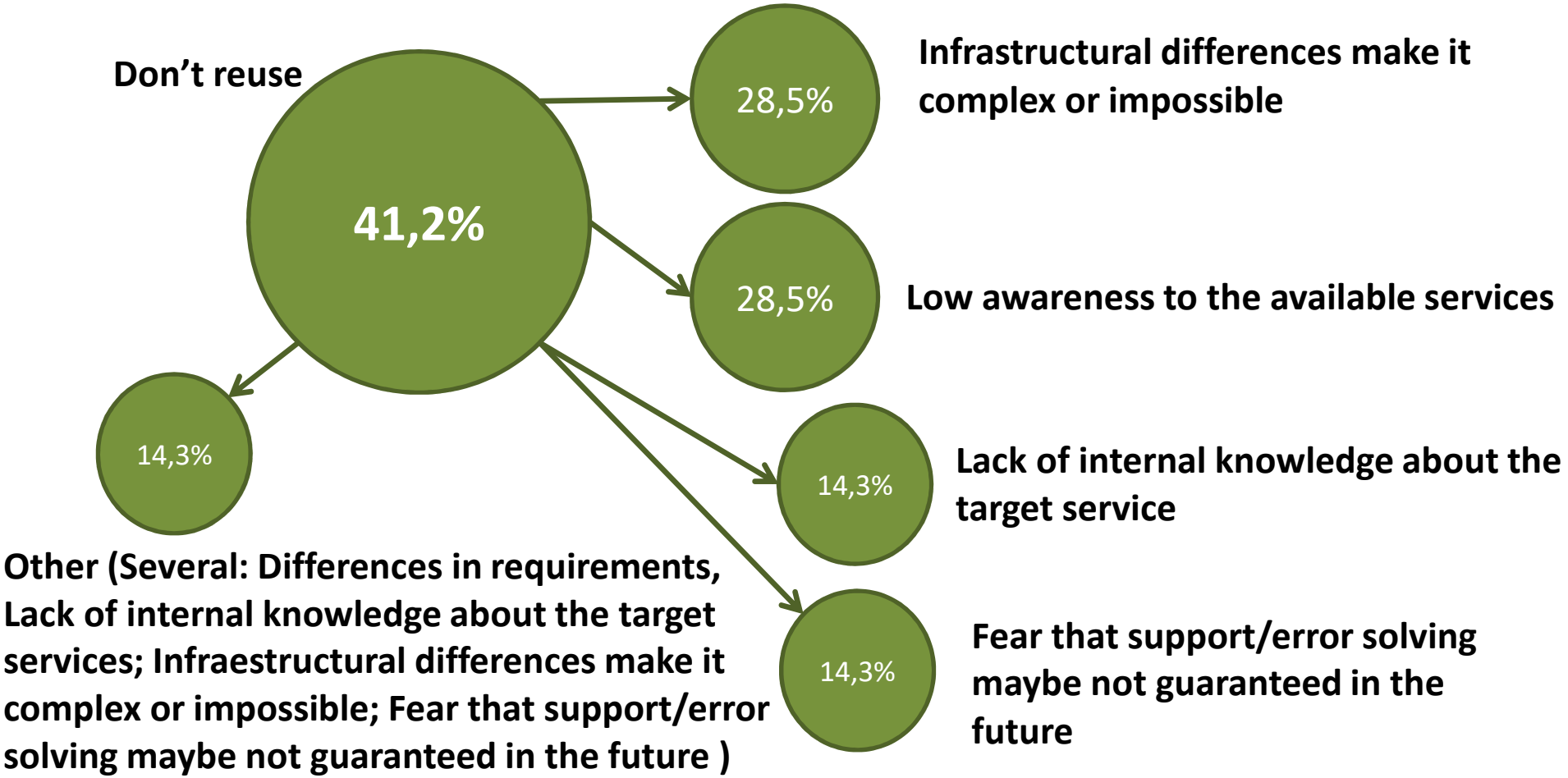
If not, what is the top reason for not sharing?



If not, what is the top reason for not sharing?

- ✖ **Doesn't meet the required level of quality for external use**
- ✖ **Architectural requirements**
- ✖ **No adequate documentation to accompany it**
- ✖ **Lack interest of others**

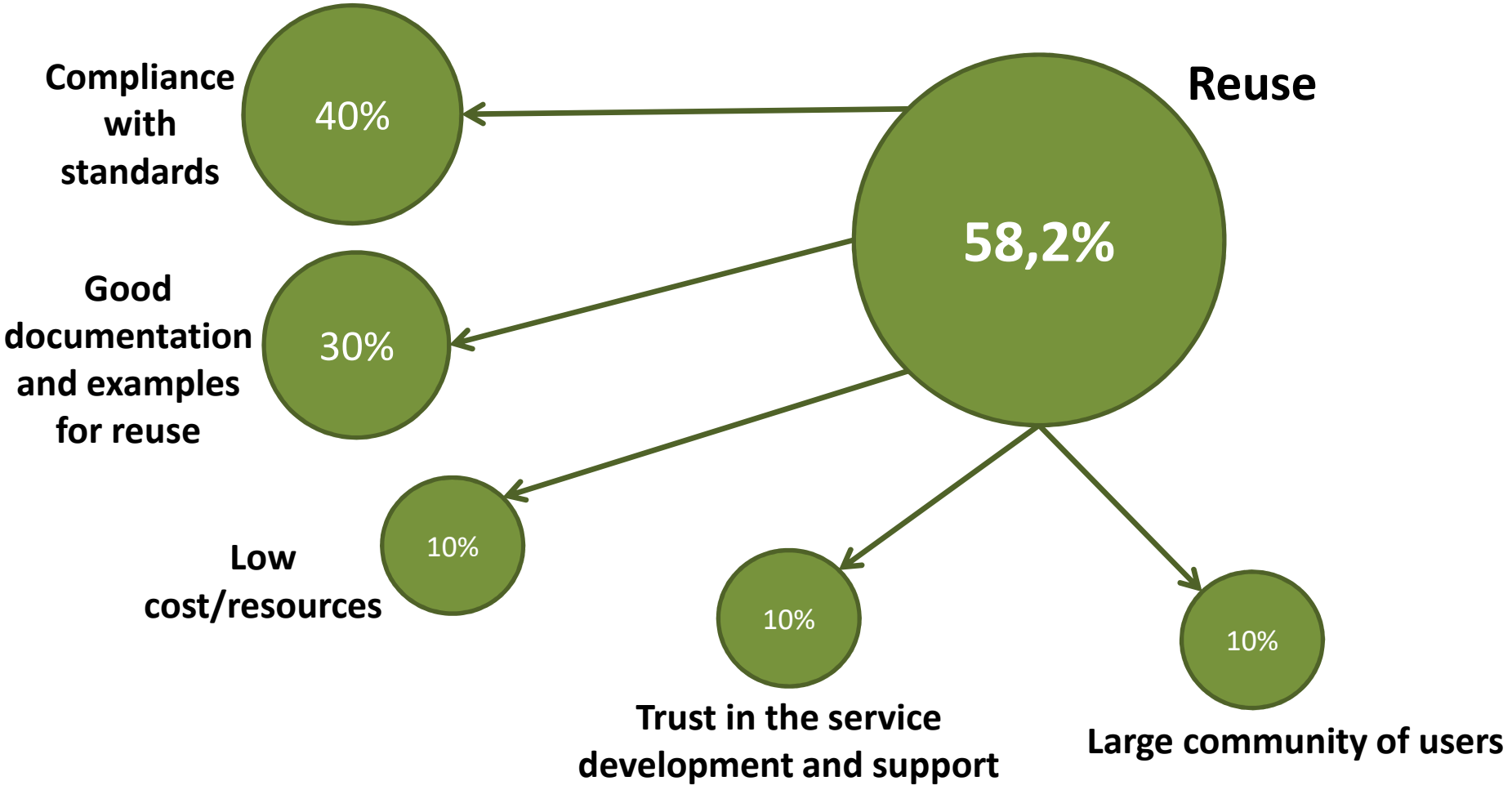
If no, what are the main factors that blocks you from reuse a shared service?



If no, what are the main factors that blocks you from reuse a shared service?

- ✖ **Preference of a customized solution**
- ✖ **Cultural differences**
- ✖ **Internal policies**
- ✖ **Distance and lack of interaction between service developers and your reuse team**
- ✖ **Poor communication/documentation on how to reuse the service**

If yes, what are the main factors that made you reuse that service?



If yes, what are the main factors that made you reuse that service?

- ✖ **Ready to use solution**
- ✖ **Technical qualities of the service**
- ✖ **Organization endorsement of the service**
- ✖ **Similitude with your own services/solutions**
- ✖ **Existence of support team for the service**

Some conclusions:

50% don't share services because they are not generic enough, not open source or don't comply with standards

40% reuse services because they are compliance with standards

43% don't reuse services because they don't know much about them

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Source

Message

Channel

Receiver

Feedback

Environment

Context

Interference

In communication, defining the target is very important because different target should get different messages

	Manager	Subject matter Specialist	IT
Service name	X	X	X
The source of the service is explicit?	X	X	X
Some story about the service? – How long, who uses it, incentives to use it or create the service	X	X	X
Is the service easily connectable with the source?	X	X	
How?	X	X	
How is the service advertised?	X	X	
How can someone become aware of it?	X	X	
In which forum?	X	X	X
Is it in service catalogue?	X	X	X
In peers meetings (of IT or Subject Matter or other)?	X	X	X
How is the service described?		X	
What problems it solves	X	X	
High level of GDBPM description		X	
Architecture		X	
To which group of users is the communication more directed?	X	X	X
Is additional help necessary for the service deployment			X

In communicating statistical services we considered three different targets:

- **Managers**
- **Subject maters specialists / Methodologists**
- **IT persons**

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Source

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Communication channels

- Flyers
- Promotion Videos
- Success stories written testimony
- Success stories videos
- Posters
- Workshop or conferences advertisement
- Catalogue
- Sinder

Flyers

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eurostat

JDEMETRA+ : L'HISTOIRE D'UN PARTAGE D'EXPERTISE INFORMATIQUE

THE STORY OF SHARED IT EXPERTISE

Imaginer que différents instituts nationaux de statistiques utilisent les mêmes outils informatiques pour produire leurs indicateurs ou chiffres n'est pas une utopie. Confrontés aux mêmes besoins ou aux mêmes contraintes, les INS peuvent avoir une approche mutualisée des ressources informatiques. Ce partage d'outils s'inscrit dans le partage de méthodes qui facilitent la production de statistiques harmonisées. L'histoire du développement de JDemetra+ est emblématique de ce que peut représenter le partage d'une solution informatique à l'échelle de plusieurs instituts. Retour sur une expérience fondatrice.

The idea of different national statistics institutes using the same IT tools to produce their indicators and figures is not merely a pipe dream. As they face the same needs or constraints, NSIs can adopt a pooled approach to their IT resources. This tool sharing is part of a system of exchanging methods that facilitate the production of harmonised statistics. The story behind the development of JDemetra+ is emblematic of just what can be achieved when multiple institutes come together to share an IT solution. Here, we take a look back at this truly foundational experience.

JDemetra+, le logiciel de référence

JDemetra+, the reference software for seasonal

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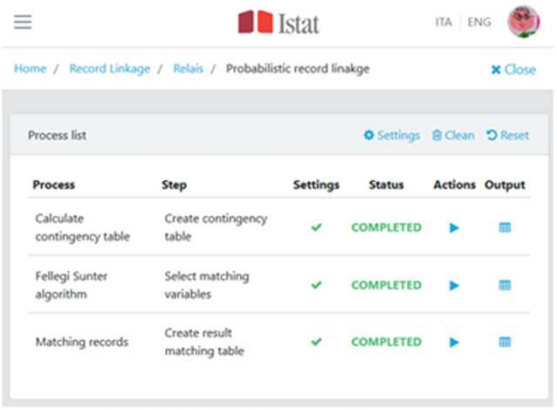
Flyers



Relais Process Execution

Software download

The new version of Relais performs the probalilistic linkage approach, based on the Fellegi-Sunter method

Developing and sharing statistical services

The project

In the European Statistical System (ESS), the Vision 2020 promotes a joint strategic vision, based on common models and standards. In this context, the project "Integrating Shared Statistical Services" (I3S) aims to:

- foster the implementation of shareable statistical services
- reduce the technological and methodological barriers that make the process of sharing rather complex

Contacts

ESSNet

IMPLEMENTING SHARED STATISTICAL SERVICES

http://www.cros-portal.eu/

RELAIS

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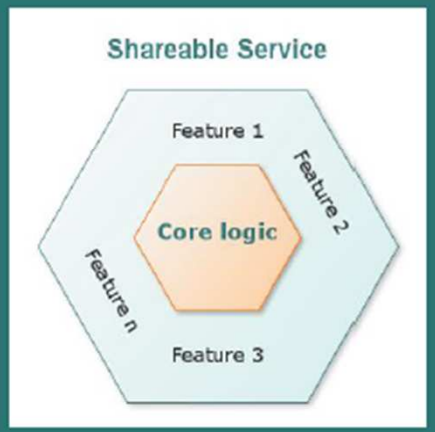
Flyers

A shareable service, should be compliant with **CSPA 2.0** principles.

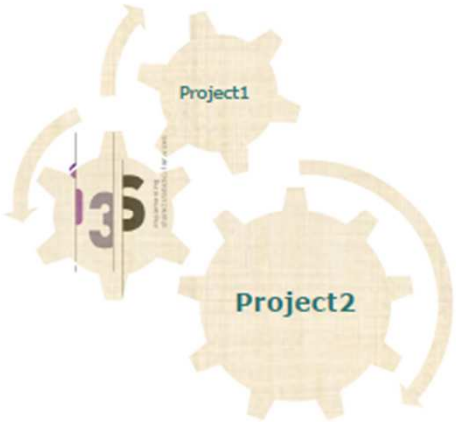
The main architecture components should be designed according to the following model:

- **Core logic**: the core algorithm implemented by the service.
- **Features**: a set of components (not only software) that take into account specific requirements from different stakeholders (e.g. IT, methodology, domain experts, etc.) and allow the execution of the service in several environments.



Following the ESS Vision 2020, the I3S (Integrating Shared Statistical Services) project aims at implementing and reusing statistical services.

The development of shareable services can be either from scratch, or from existing components.



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PX-Web

for IT-Specialist

Description

PxWeb is used for publishing statistics in a data base or in px-file format at the web and is since 1 January 2016 free of charge for Swedish government agencies and municipalities, international NSI:s and international organisations of statistics. PX-Web offers all the datasets in the database as open data through an API in many formats.

History

The software is used in 40 countries 63 international organisations 21 Swedish organisations.

Architechture

Main features

The PX-Web application consists of two parts:

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PX-Web

for managers

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History

The software is used in 40 countries 63 international organisations 21 Swedish organisations

Main features

The PX-Web application consists of two parts:

Administration interface - The Administration

Conditions regarding use of PxWeb

The receiving authority / organisation are responsible for handling the tool on their own using the instructions supplied with the tool. The access to PxWeb does not include ongoing support, any promises of further development or any guarantee against errors in the program and any use shall be at the users own risk.

Documentation & Additional resources

CSPA Katalog: https://www.statistical-services.org/

PX-Web information page: https://www.scb.se/en/services/statistical-programs-for-px-files/px-web/

Statistics Sweden Github: https://github.com/statisticssweden/PxWeb

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ARC

Description

The ARC (from the French: Acquisition - Réception - Contrôles) software allows to receive (administrative) data supplied by the providers (several formats are supported, particularly XML), to control the compliance of the received files, and to transform administrative data to elementary statistical data. The software enables the statistician to define and apply controls and mappings, to test them in a sandbox environment (linked to the software), and to put them into production without frequently calling on a developer.

Stakeholder commitment

Three instances of the ARC application are running in production within the Insee information system on employment and income (called "SIERA"). The

ARC provides a web interface to lead the user through the rule definitions. The language for defining complex rules is based on the SQL language.

User defined rules and metadata are stored and versioned in the database. ARC currently supports two types of metadata:

- The models identify the normalized relational models defined by the user; they are used to define the rules and store the output generated by the statistical formatting module.
- The external tables integrated by the user are used by the rules of the different modules.

Conditions regarding use of ARC

The receiving authority / organisation are

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ARC Video

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ESSnet-SERV2 - Implementing shared services

26-28 April 2021