SOCIAL INFORMATION REGISTER, CHILE

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Ministerio de
Desarrollo
Social y
Familia

Gobierno de Chile

Context

Context of poverty and social protection in Chile

- **Population:** 19.5 million people/6.5 million households (CASEN in pandemic 2020)

- **Poverty level:** 10.8% of people are in poverty (CASEN in pandemic 2020).

- **Social protection system:** 114 programmes in 10 ministries or foundations use the Social Household Registry, directly or indirectly.

Increased coverage/key programmes of SPs

Ministerio	N	DEPENDENCIA	ADULTOS MAYORES	INDÍGENA	NNAs	MUJER	POB MULTIDIMENSIONAL	POB INGRESO	POBLACIÓN GENERAL
Ministerio de Agricultura	20	0	0	1	0	1	0	0	18
Ministerio de Bienes Nacionales	1	0	0	0	0	0	0	0	1
Ministerio de Desarrollo Social y Familia	31	4	8	1	5	1	22	14	0
Ministerio de Educación	30	0	0	1	16	0	9	7	11
Ministerio de Energía	1	0	0	0	0	0	0	0	1
Fundación	6	0	0	0	5	2	5	1	0
Ministerio de Justicia	3	0	0	0	0	0	0	0	3
Ministerio de Trabajo	15	1	4	0	2	0	8	15	0
Ministerio de Vivienda	7	0	0	0	0	0	3	0	4
Total general	**114**	**5**	**12**	**3**	**28**	**4**	**47**	**37**	**38**

Overview of information systems in Chile

Common digital infrastructure

Information system	Status (see legend below)	Responsible institution	Percentage of population covered (if available)
Common Identification System	Depending on	Civil Registry and Identification Service	98,2%
Social register	Depending on	Ministry of Social Development and Family	17.156.170 (86,5%)
Common payment platform	Depending on	Social Welfare Institute	2.824.784 (14,4%)
Platform for the submission of complaints	Depending on	Each organ of the State Administration uses the **Citizen Information and Attention System** Platform.	
Integrated Beneficiary Register	Depending on	Ministry of Social Development and Family	17.216.778 (88,1%)
Civil registration system	Depending on	Civil Registry and Identification Service	98,2%

IN OPERATION	IN DEVELOPMENT	NOT AVAILABLE

Overview of the information system in Chile

Other sectoral/programmatic registers

Information system	Status (see legend below)	Responsible institution	Percentage of population covered (if available)
Income Tax Payment Form (F22)	Depending on	Internal Revenue Service	3,445,538 people (2021)
Beneficiaries of the National Health Fund (public health insurance)	Depending on	National Health Fund	15 million (77%)
National Disability Register	Depending on	Accreditation by the Commission of Preventive Medicine and Invalidity and registration by the Civil Registry and Identification Service.	396,201 out of 2,836,818 (13.9%) (ENDISC 2015)
Registration of Motor Vehicles	Depending on	Civil Registry and Identification Service	10,238,224 vehicles (June 2022)
Indigenous Quality Registration	Depending on	National Indigenous Development Corporation	1,174,247 people (April 2022)

IN OPERATION **IN DEVELOPMENT** **NOT AVAILABLE**

Summary of RIS

- Launch year: 2011
- Number of households covered: 8.7 million (in RSH)
- Number of people covered: ~98% of the population
- Database size: 10TB

Business processes of admitted SPs

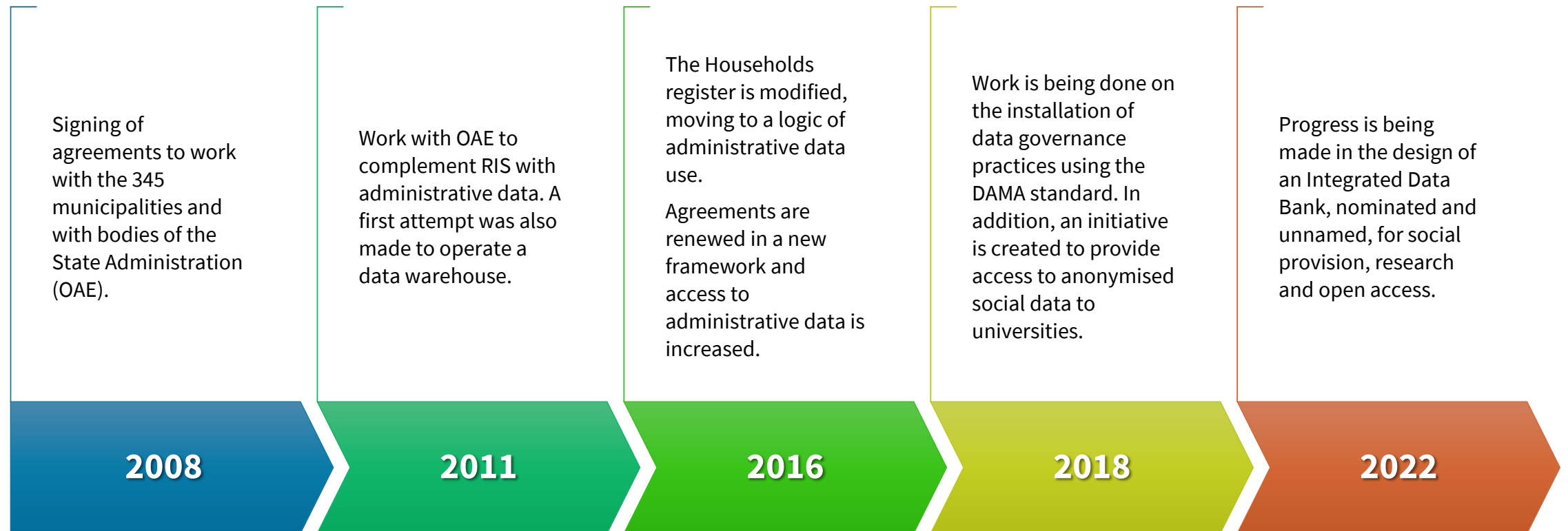|		
Initial registration	Eligibility check	Registration
		Data management (updates)
Case management	Monitoring and evaluation	

Technology stack

- Web UI
  - Bootstrap 4.3, Laravel 5.2, jquery 3.4
- Web backend
  - Bootstrap 4.3, Laravel 5.2, jquery 3.4
- Data
  - Oracle 11g
  - Repositories (NAS, FTP, Sharepoint)
- Data processing
  - ETL (Pentaho, DataStage, SAS)
  - Analysis (SQL, STATA, Python, R, SAS)

How the system has evolved over time

Signing of agreements to work with the 345 municipalities and with bodies of the State Administration (OAE).

2008

Work with OAE to complement RIS with administrative data. A first attempt was also made to operate a data warehouse.

2011

The Households register is modified, moving to a logic of administrative data use.

Agreements are renewed in a new framework and access to administrative data is increased.

2016

Work is being done on the installation of data governance practices using the DAMA standard. In addition, an initiative is created to provide access to anonymised social data to universities.

2018

Progress is being made in the design of an Integrated Data Bank, nominated and unnamed, for social provision, research and open access.

2022

Interoperability capabilities

What were the needs for which interoperability was designed?

- The most relevant interoperability is directed from the Ministry towards the partner institutions.
    - The greatest need was to have citizens' data available online **in benefit applications**.
    - The most requested data are the **composition of the household**, the **socio-economic qualification of** the Social Registry of Households, the **address**, and the family's membership in the **Seguridades y Oportunidades** subsystem.

- Interoperability in the other direction, from the institutions to the Ministry, is less, and is reduced to the **verification of identity or validity of documents** with the Civil Registry, and to the identification of **family responsibilities** for the family subsidy.

- The forthcoming entry into force of the Digital Transformation Act will force increased interoperability across the board, to avoid citizens having to hand over information already held by the state.
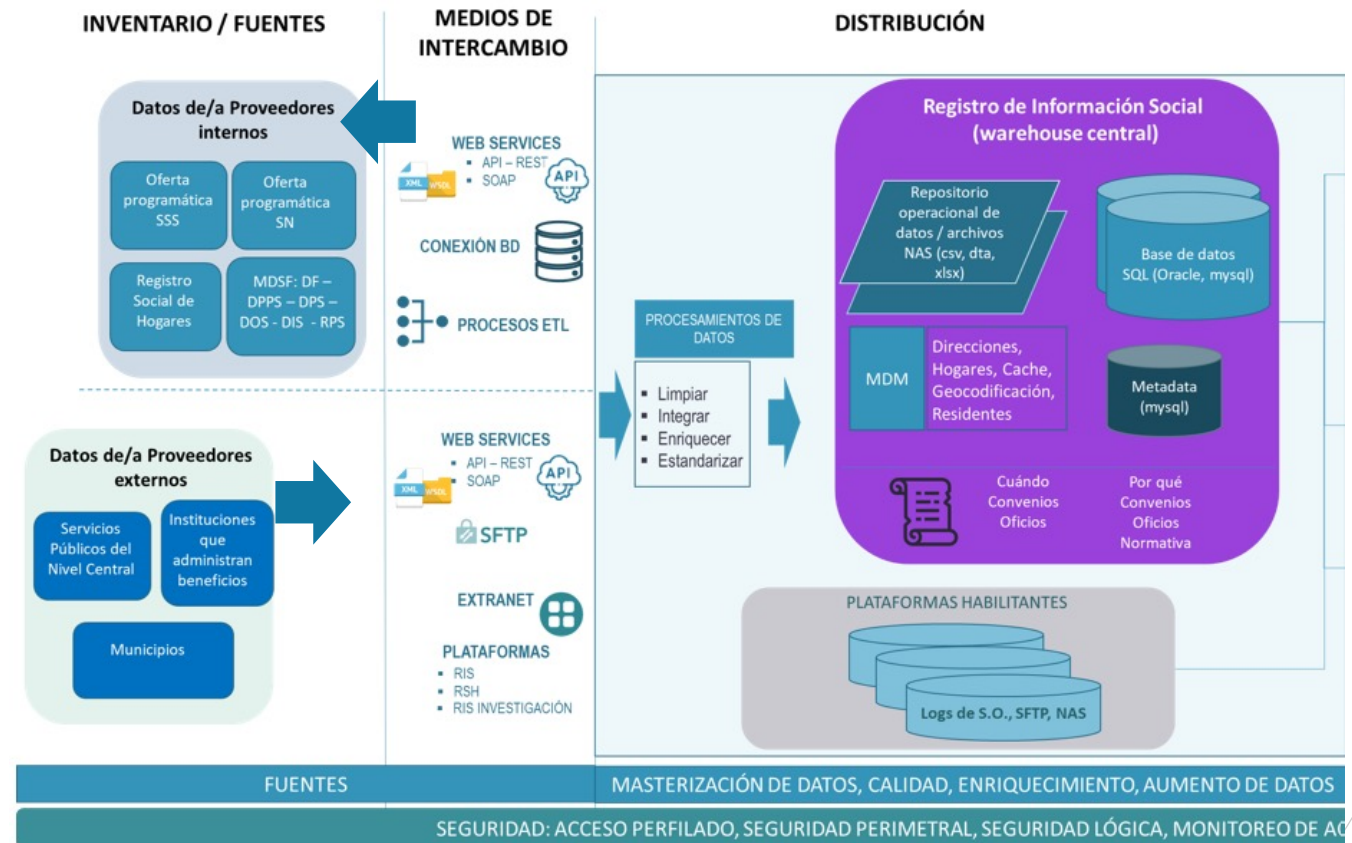
What are the main milestones achieved through interoperability?

- **Early verification of compliance with minimum requirements** when applying for benefits, which avoids generating expectations in people who do not meet them.

- **Decrease in the amount of background information** requested from individuals.

- **Acceleration of** benefit **enrolment/application processes** due to the online availability of essential data.

- **Savings in analysts' time** preparing data for social benefit claims.

What are the different systems with which the system in question shares and receives data?

INTERNALLY:

- Social Household Register
- Alternative registers: RSH Street (people in street situations), SISE (affected by disasters or emergencies)
- Social benefit management systems (SSyOO, SDRM, SAN, Habitability, Noche Digna, PARN, etc.).
- Citizen service systems: GSL, RPS
- Cash subsidy platform

AT THE EXTERNAL LEVEL:

- COW (Civil Registry)
- Miscellaneous systems of other ministries and public services (54 with agreement)
- Municipalities (345 with agreement)
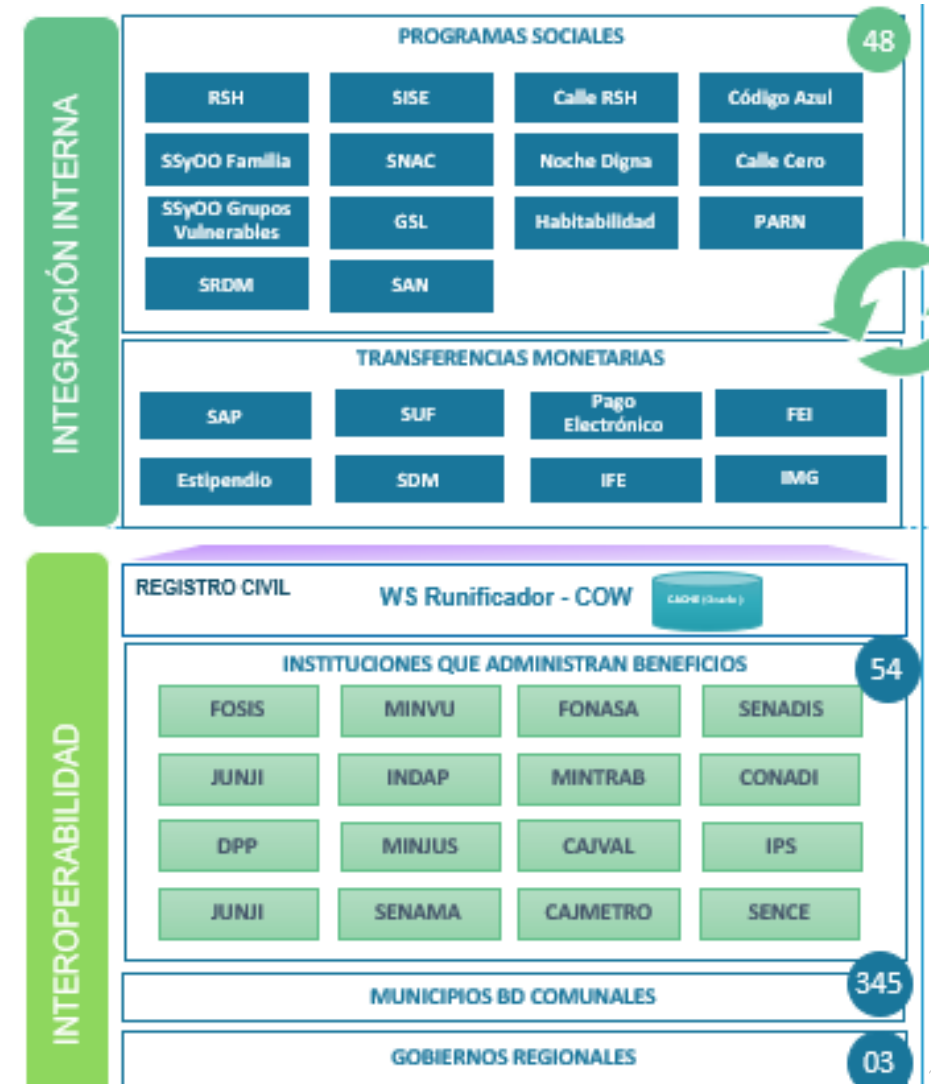
Technical and functional overview of the data exchange architecture
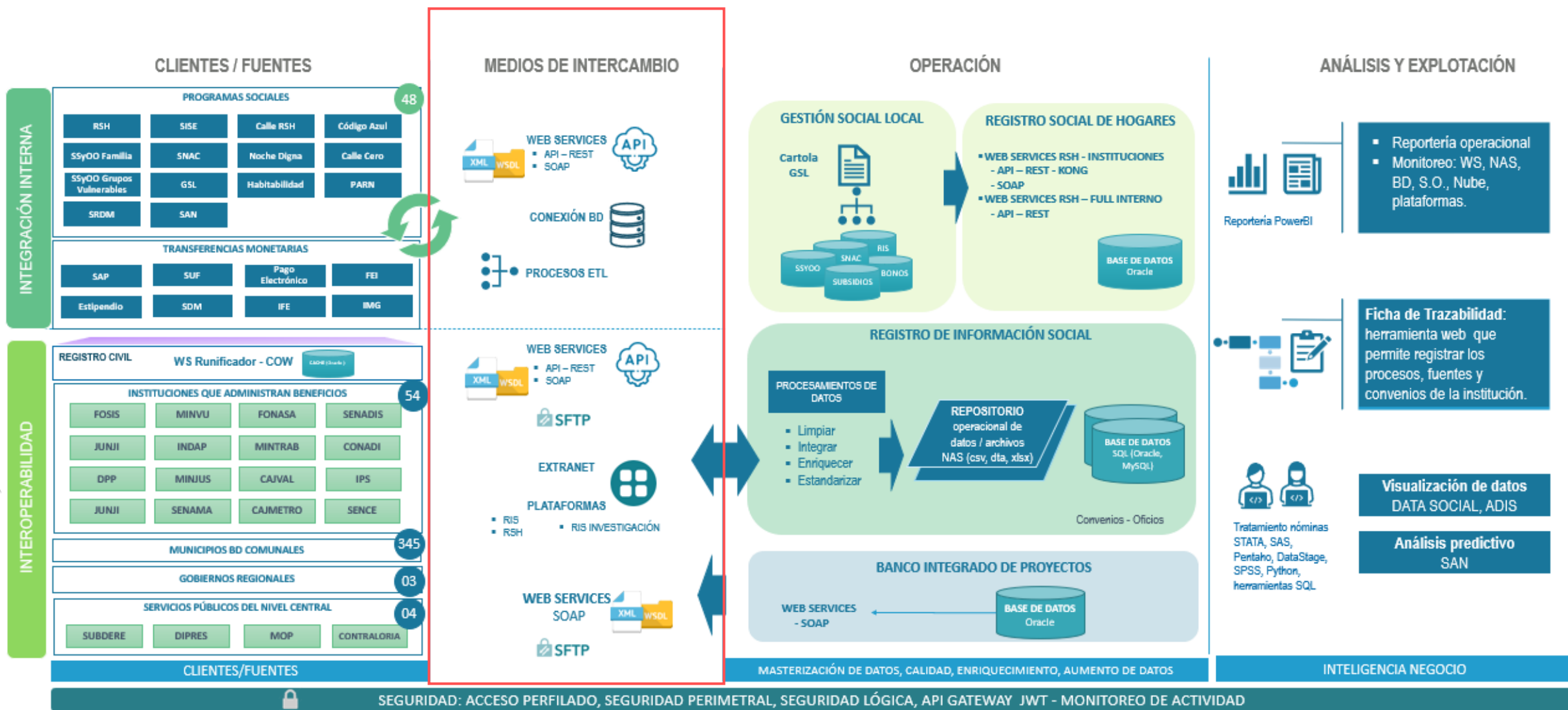
Data standards

- The standard way of connecting data is the personal identification number (RUN), which allows joining or filtering tables in E-R models. Secondarily, relationships are established by household identifier.

- Data are divided into master (or reference) data and other data.
  - Examples of master data: first and last names, date of birth, nationality, gender, address, contact details (e-mail/telephone).
  - For the rest of the data definitions are made in the applications that use them, and there are recommendations for some of them. E.g. treat dates as numbers and not in date format.
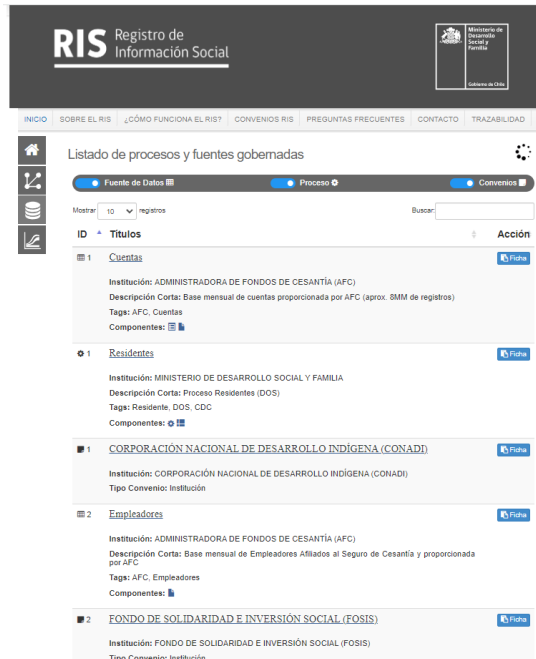
Diagrama - Data Lake - RIS PROD

Descargar modelo ERD en zip
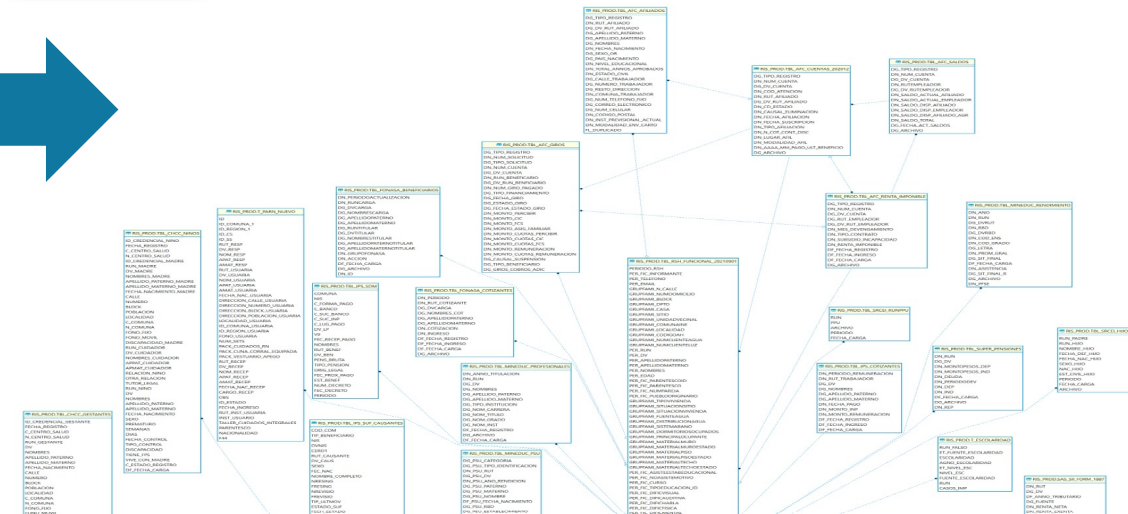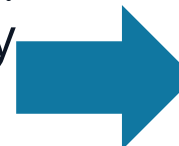
Data standards

- To document data, processes and processing, a traceability tool was developed and made available on the ministerial intranet.

- Documentation, dictionaries and metadata were standardised using data governance criteria (DAMA) and specific communication needs of the different stakeholders.

- Dictionary generation can be done automatically, by loading data into the database, and corrected/precised manually.

Defining and managing interoperability interfaces

- The framework definition of access is given in the RIS regulation, which sets out who can access what data:
  - ✓ municipalities, as far as the data relating to the respective commune is concerned,
  - ✓ institutions administering social programmes or benefits, for the purpose of administering them.
- To enable interoperability, there is a responsible manager who manages and authorises access to microservices or web services, depending on whether it is internal or external.
- As a business, applicants are ministerial project leaders or external applicants from partner institutions. The validation of the relevance of the requests is done with the established rules and/or with verification with the RIS sectorialist.

Defining and managing interoperability interfaces

- There is a catalogue of services, managed by the interoperability officer.
- Updates are managed with the RIS sectoralists, the interoperability officer and the requesting project leaders.

WS – API: Catálogo de Servicios - Dashboard

	A	B	C	D	E	F	G	H
	ID_WS	Nombre servicio web:	cantidad consumidores	nombre instituciones o sistemas	Dueños del Negocio	Método	Descripción web service	Esquema OpenApi/WSDL/Otro
	WS_001	WS COW	4	RSH - directo IMG - utiliza ws IFE - utiliza app Reclamos RSH - directo	Registro Civil	GET	Valida rut con serial, primero va a consultar a nuestra cache interna que ya cuenta con más de ocho millones de personas (8.036.827), y si no encuentra la información consulta en registro civil.	http://wscow.ministeriodesarrollosocial.gob.cl/cow/ {rut}/{serie}
	WS_002	API-Clase media Protegida	1	Chile Atiende (productivo) GSL (Prueba)	DPPS	GET	El servicio recibe el RUT de un ciudadano, clave única, evento de vulnerabilidad y entrega los beneficios potenciales que tendría el ciudadano dependiendo de su perfil social	https://clasemediaprotegida.gob.cl/api/v2/beneficios-potenciales (Ver especificación en https://clasemediaprotegida.gob.cl/docs/)
	WS_003	RSH API	2	RSH Clase Media Protegida	MIDSyF - Focalización - PS - DIS	POST	Se utiliza internamente en RSH	https://rshapi.ministeriodesarrollosocial.gob.cl
	WS_004	WS Chile Solidario – Seguridades y oportunidades .NET	10	FOSIS INTEGRA JUNAEB MINTRAB SENADIS MDS BNAC SENCE MINBI PRODEMU	DPPS	POST	Servicio que permite obtener información si una persona es chile solidario o seguridades y oportunidades	

- ID_WS
- Nombre servicio web:
- cantidad consumidores
- Nombre instituciones o sistemas
- Dueños del Negocio
- Método
- Descripción web service
- URL
- Datos de Entrada
- Datos de salida
- Nivel de servicio comprometido: SLAs
- Método de Seguridad
- Fuente
- "Monitoreado Centreon"
- Uso

- Link Ficha de Trazabilidad
- Manual
- Repositorio
- URL Repositorio
- Base de datos
- Fecha de actualización Fuente
- Servidor Base de datos Desarrollo
- Estado
- Subsecretaría
- Tecnología
- Web Server
- S.O.
- Acceso Ciudadano
- Tipo Servidor
- Nombre Maquina Virtual

Data exchange protocols

- The definition of rules with other institutions is established in the collaboration and interoperability agreements with the Social Information Register.

- Internally, two mandatory resolutions were issued to ministerial staff:
  - (1) establishing the System on Data Governance, Quality and Ethical Use, and
  - (2) approving the procedure for verifying the integrity of the information transferred in the framework of the operation of the Social Information Register.

- Different approaches are available for data integration:
  - Web services/API
  - Point-to-point integration
 - Data warehousing with ETL

Data exchange protocols

- The access control protocol is IP-controlled DNS and F5, which is in the process of standardisation.
  - For web services it establishes all connections through KONG (API Gateway) as the entry point to the existing set of microservices.
  - SFTP is used for file exchange.
- On consent:
  - While the Privacy Act does not require consent from individuals to process their data when a law permits it, which is the case for the Ministry and the institutions with which it interoperates, there is a practice of obtaining informed consent when individuals enter the Social Household Register and other social data management systems.
  - In the request for informed consent, they are informed that the data may be transferred to other institutions and/or that they will be checked against administrative data.
- The data shared refers to persons identified by national identification number (RUN), who are part of the Social Information Register, and who are authorised by agreement. In addition, logs are generated for the consulting institution in case of subsequent audits.
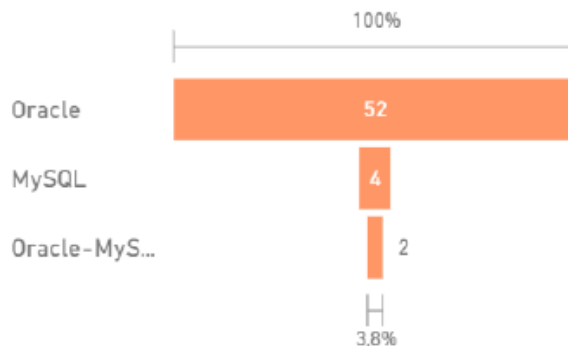
Data security and privacy

- In formal terms, data is exchanged only with institutions with an agreement.

- For WSs, mutual authentication, user/key, and/or API-token authentication is used.

- Other exchanges are done via SFTP, with authorised IP address verification plus username/password, or via extranet with username/password.
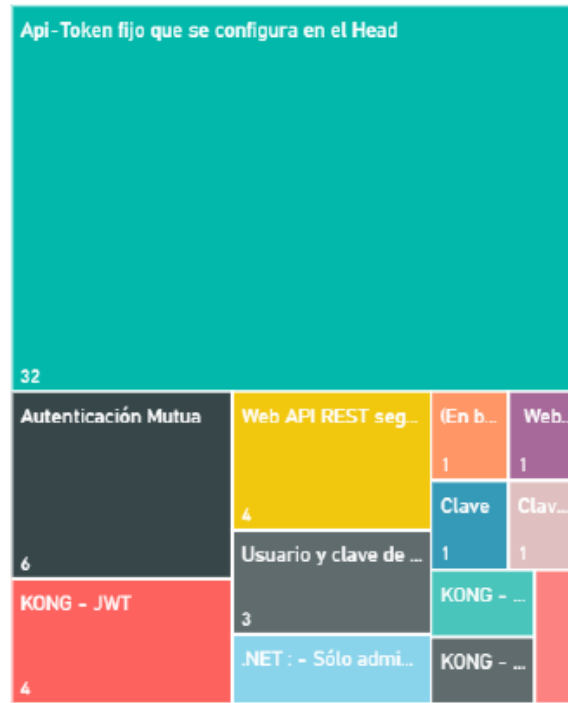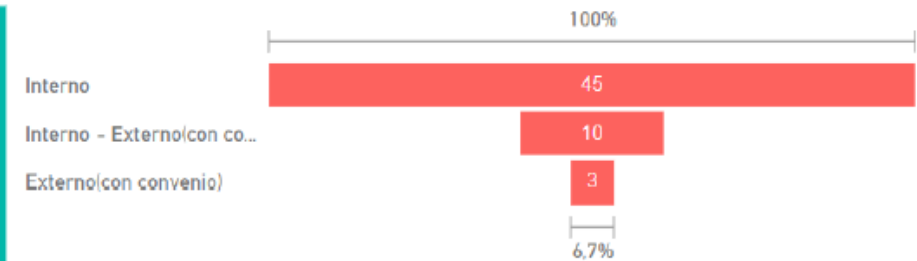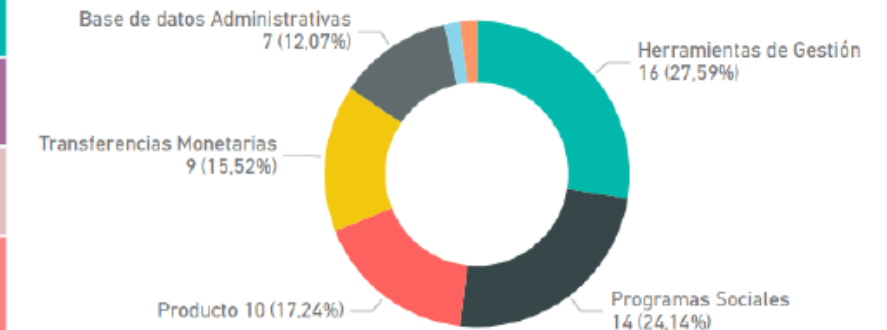
Challenges and the way forward
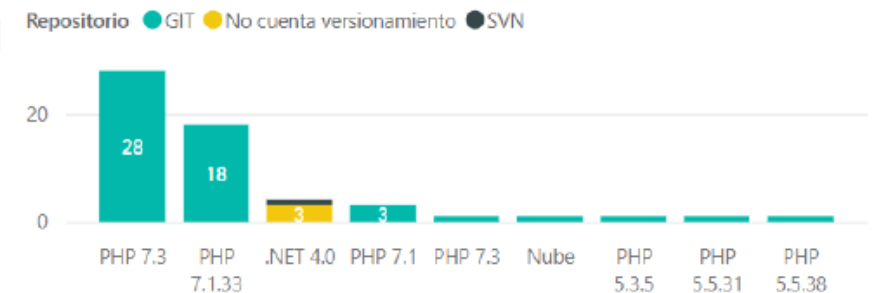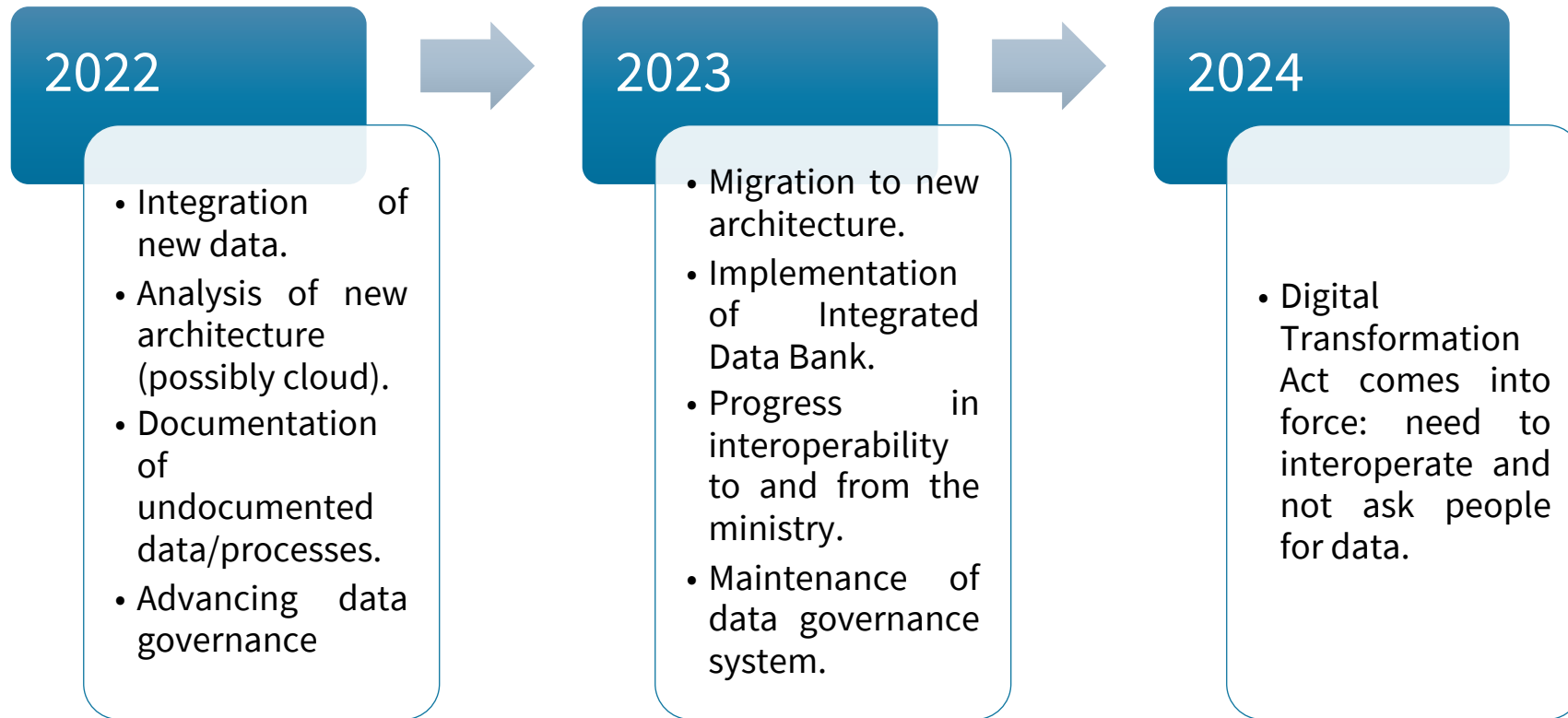
Main interoperability problems and how they have been overcome

Challenge	Solution
Inability of the institutions to deal with data queries on 2 TPS (transactions per second).	Generation of a local case file (cache), which is verified on a massive monthly basis with the institution managing the data.
Need for data from the universe of a datum, for the calculation of the socio-economic qualification of the Social Household Register.	Monthly exchange of complete data, via SFTP or extranet.
Impossibility or difficulty for institutions to make changes and update new sources of access to WS - API with new security methods, such as KONG.	Prioritise those that are in a position to adopt this way of working, and those that are not, are progressively integrated. In such cases, complementary security methods are maintained.

What challenges lie ahead for interoperability?

- Identify new data providers that are in a position to advance interoperability via web service, to prevent individuals from handing over their data.

- Work on data delivery via query API.

- Advancing internal data needs with microservices.

- Complete documentation of all services in the Traceability platform of the Data Governance system.

Future roadmap for extending the system's interoperability capabilities

2022

- Integration of new data.
- Analysis of new architecture (possibly cloud).
- Documentation of undocumented data/processes.
- Advancing data governance

2023

- Migration to new architecture.
- Implementation of Integrated Data Bank.
- Progress in interoperability to and from the ministry.
- Maintenance of data governance system.

2024

- Digital Transformation Act comes into force: need to interoperate and not ask people for data.

Thank you