

OC4IDS and OCDS implementation in Nuevo León, México

Technical case study

The aim of this case study is to provide insights into the technical implementation of the Open Contracting for Infrastructure Data Standard (OC4IDS) and the Open Contracting Data Standard (OCDS) in Nuevo León, México. For more information about the history, context, and impact of the implementation, you can read [Nuevo León's progress story](#).

The Secretary of Mobility and Urban Planning of Nuevo León (formerly Secretary of Infrastructure) publishes joined-up data on infrastructure projects and contracting processes via its [Infraestructura Abierta platform](#). The platform provides data in OC4IDS and OCDS format and offers tools to help users to explore, visualize and monitor the data.

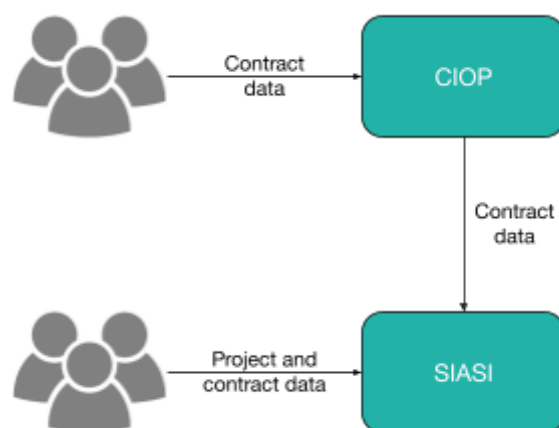
Data sources

Users at the secretary use two internal systems to enter data about infrastructure projects and contracting processes:

- **Sistema Integral de Administración de la Secretaría de Infraestructura (SIASI)** contains data on projects and contracting processes.
- **Control Interno de Obra Pública (CIOP)** contains data on contracting processes.

Joining projects and contracts

Users register infrastructure projects and contracting processes in SIASI and associate them with data from CIOP on contract planning, progress estimates, and payment orders.

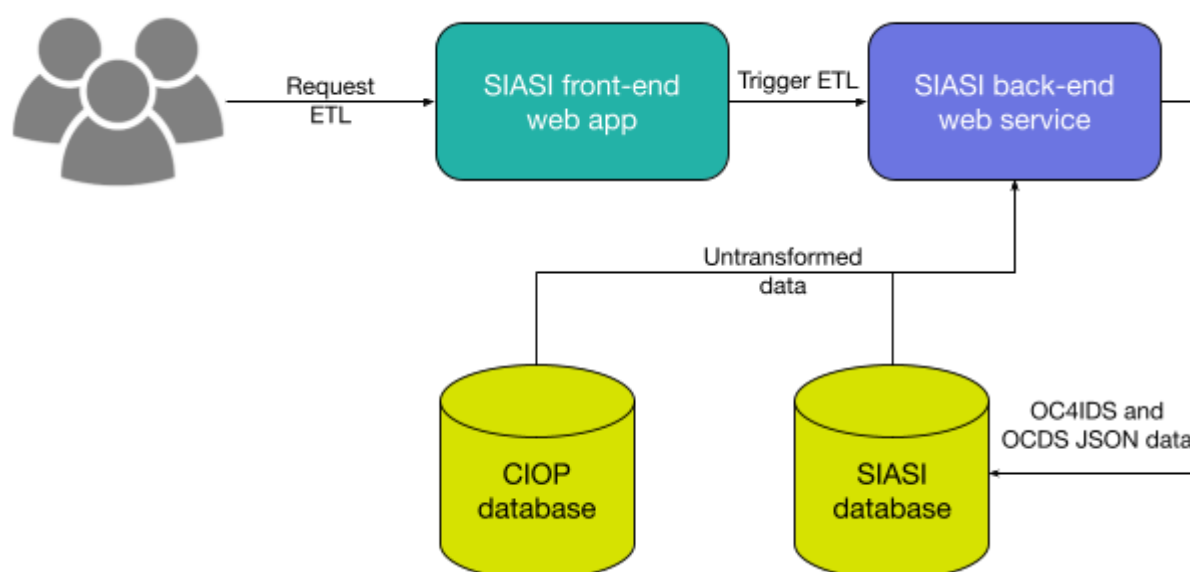


Subsequent updates about projects and other stages of the contracting process are entered using SIASI.

Extracting, transforming, and loading data

Users check the quality of the data before manually triggering an extract-transform-load (ETL) process using the SIASI front-end web app.

The SIASI back-end web service extracts data from the CIOP and SIASI databases, transforms it into OC4IDS and OCDS JSON format, and stores the transformed data in the SIASI database.



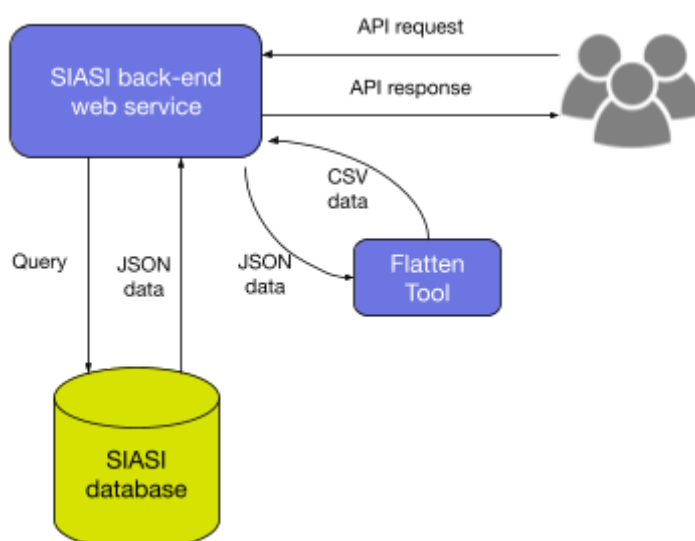
The SIASI back-end web service provides a RESTful API and uses [Microsoft net.core](https://docs.microsoft.com/en-us/dotnet/core/), [C#](https://docs.microsoft.com/en-us/dotnet/csharp/), and [Entity Framework](https://docs.microsoft.com/en-us/dotnet/framework/entityframework/). The CIOP and SIASI databases use MS SQL Server.

Publishing data

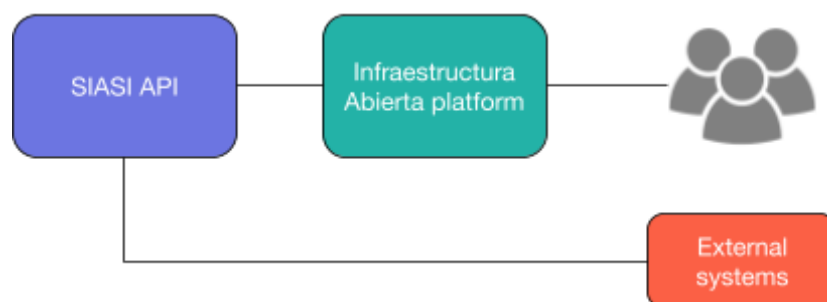
The SIASI back-end publishes data from the SIASI database via an API with the following endpoints:

Endpoint	Parameters	Data	Format
edcapi/DescargarProjectPackage		OC4IDS project package	JSON
edcapi/Json2CSVEDCAPI		OC4IDS project package	CSV
ocds/DescargarRecordPackage		OCDS record package	JSON
edcapi/Json2CSVOCDS		OCDS record package	CSV
edcapi/DescargarProjectPackageXAnio	anio (example)	OC4IDS project package segmented by year	JSON
edcapi/Json2CSVEDCAPIXAnio	anio (example)	OC4IDS project package segmented by year	CSV
ocds/ListarProduccionXAnio	anio (example)	OCDS record packages segmented by year	JSON
edcapi/Json2CSVOCDSXAnio	anio (example)	OCDS record packages segmented by year	CSV

When a user requests JSON data from the API, the web service extracts the data from the SIASI database. When a user requests CSV data, the web service extracts JSON data from the SIASI database and transforms it to CSV format using [Flatten Tool](#).



The Infraestructura Abierta platform consumes the data from the API and provides [download links](#) for bulk and individual OC4IDS and OCDS files in JSON and CSV format. External systems can also access the API directly.



Previously, the platform did not connect to the API. Instead, it was necessary to hard code the path to the JSON and CSV data. The Infraestructura Abierta platform uses [vue.js](#) and [Axios](#), and the source code is published in [bitbucket](#).

Using data

The Infraestructura Abierta platform uses the OC4IDS and OCDS data from the SIASI API and provides tools to help users to explore, visualize and monitor the data. The platform is freely accessible both for government users and for the public.

The platform's features include:

- Tools to filter, search and explore data at different levels, including program, project, contract, buyer, and supplier
- Visualizations, including relationships between buyers, suppliers, projects, and contracts
- Indicators, including projects by stage, projects by year, and contract value by procurement method
- A project map

