

Data acquisition



Open geospatial oil and gas data

Gov't oil and gas data sources

Non-gov't oil and gas data sources

- Semi-automated and manual online data search and acquisition, focusing on state/provincial and country-level oil and gas data.
- Focus on key oil and gas infrastructure types in upstream, midstream, and downstream operations.
- Leverage automated translation of non-English websites via Google Translate.
- Apply OGIM data storage and catalog protocols.

Data processing



Integration of multiple and disparate geospatial datasets

- Categorizing datasets by OGIM facility category.
- Data pre-processing
 - Data cleaning
 - Standardizing spatial reference
 - Standardizing data types
 - Automated translation of non-English attributes
- Deriving OGIM-specific attributes
 - OGIM-derived units for O&G production and throughput, pipeline length, and basin area.
 - Standardization of facility status attributes.
- Applying standard OGIM data schema.
- Creation of a GeoPackage incorporating all acquired and integrated oil and gas infrastructure datasets for all regions.

Database analytics



Database analytics at basin, country, and regional scale

- Summary statistics by country and region.
- Assessment of geospatial data coverage and spatial trends.
- Characterizing data quality:
 - Reliability of data source
 - Data update frequency
 - Data attribute richness
- Assessment of data gaps.



Database quality assurance and control

- Handling missing and duplicate records.
- Verification of facility attributes, facility category definitions, and accuracy of locational information.
- Internal and external review and validation.