Research and Innovation Careers Observatory (ReICO)

Methodology document on ReICO data

Last major update: June 2026
Last minor update: September 2026

Foreword

This document provides an overview of the data sources underpinning the ReICO indicators for year 2 of the ReICO project, discusses data quality and comparability issues, and explains how indicators are constructed and validated. The document also presents the different ReICO data products, including databases, dashboards and related dissemination tools, and offers guidance to users through practical information and frequently asked questions. Links to the databases and dashboards are provided throughout to facilitate access and use.

This document corresponds to the ReICO project's output O2.3. "ReICO statistical indicator databases for publication (annual) updates, with metadata. "Methodology explained" notes", part of ReICO's Activity 2 "Develop a robust and adaptable international statistical monitoring system for R&I talent and careers".

This version corresponds to the ReICO version update on 30 June 2026.

The OECD Secretariat invites feedback on this document on Reico@oecd.org.

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1 Data sources

As one output of the ReICO project, the ReICO database offers a comprehensive compilation of data on R&I talent and careers from various data sources at the national and international level. The data is collected through the annual ReICO-NCP data collection via various channels: completed questionnaires from ReICO National Contact Points (NCPs), OECD databases as well as other international databases.

Original data sources

Data from ReICO National Contact Points

ReICO National Contact Points (hereafter NCPs) are asked to provide data based on national-level data, such as labour force surveys, census and/or administrative registers. As the data covers many topics from education to employment, NCPs in many countries coordinate extensively with other national teams, institutions and government agencies to gather data on different topics.

Various national-level data sources are categorised into these groups:

- Administrative registers
- Census and large-scale surveys covering resident population
- Labour force surveys
- Other surveys

List of data sources by country is available in Data sources.

Administrative registers

Administrative register on the entire resident population (hereafter, register) is the most preferred source of data. Register provides accurate numbers even for small groups of people (such as doctorate degree holders of aged 25-34) because there are no sampling errors. Also, compilation of different registers by linking data on individuals with their identification information allows analysis that joins different topics, such as education and employment. For the ReICO data collection, Denmark, Estonia and Norway reports from well-established population register, that connects demographic, education and employment information.

However, building these administrative registers from the beginning is beyond the scope of the ReICO project. Then to support the ReICO project, Brazil, Canada and Lithuania have built a new register based on the graduate register and linking individuals in this register to other registers or population surveys.

Nevertheless, registers have the following limitations:

- Foreigners may not be covered fully or covered but with limited information on detailed characteristics. For example, Estonia has limited information on the field of studies for its foreigner population. Another example is Canada, where the degree holders who did not graduate from Canadian institutions are not covered in the data.

- Some registers may not use the same definitions used for the ReICO data collection. For example, Brazil uses tax registers to identify employment status. However, tax register does not have information on the individuals who are self-employed. Brazil endeavours to find complementary data source to identify self-employed persons.

Census and large-scale survey on resident population

The next preferred source is census or large-scale survey targeted for whole resident population. Though there will be sampling errors, the size of the error would be less than that from surveys run on smaller samples (such as monthly labour force survey). This is an important strength of these data sources because the ReICO project focusses on doctorate and master's degree holders, who constitute smaller share of the whole population.

The main limitation of this type of data is the periodicity of the data. Although in Latvia and Spain, some parts of census are conducted annually based on administrative data.

Labour force survey

Labour force surveys (LFS) are available in most countries participating in the ReICO project. These surveys are conducted more often than census or large-scale population surveys, thus timelier. On the downside, depending on the sample size, sampling errors can be large for small group of people. For this reason, estimates from labour force surveys on small group of population are likely be unreliable, or even not permitted to be published.

Japan and Korea reports using the data from labour force survey with larger sample that complements monthly labour force surveys.

Other surveys

Countries also have other surveys, often focussed on the population of interest for the ReICO project.

- Graduates survey: Croatia and United States provided information on graduates from annual survey of graduates.
- Careers of Doctorate Holders (CDH) survey: Chile, Germany, the Netherlands and Portugal provided data from their CDH survey. CDH surveys mitigate small sample issues faced in a more general population surveys, however, there are some limitations. CDH surveys are conducted every few years and sampling frame may not cover sufficiently degree holders who did not graduate in the country.

Some ReICO indicators need to be computed using the data on the whole population, such as share of doctorate holders in the working age population. In this case, NCPs also provide data from population estimates if other data sources do not provide this information.

Data from OECD databases

OECD databases provide supplementary information relevant for the ReICO project.

- Directorate for Science, Technology and Innovation (STI)
  - Main Science and Technology Indicators (MSTI)
  - Research & Development Statistics (RDS)
  - Scientometric and bibliometric indicators
  - Science, Technology and Innovation Scoreboard (STI.Scoreboard)

- Directorate for Education and Skills (EDU)
  - UNESCO-OECD-Eurostat (UOE) joint data collection
  - Indicators of Education Systems Programme (INES) Network for Data Development on Labour Market and Social Outcomes of Education (LSO)
  - Programme for International Student Assessment (PISA)
  - Survey of Adult Skills (PIAAC)
- Directorate for Employment, Labour and Social Affairs (ELS)
  - Database on Immigrants in OECD and non-OECD Countries (DIOC)

For information on methodology and country notes, please consult Data sources for the links to methodological documents on these data sources.

Data from other international organisations

Data from other international organisations are gathered either to fill in data gaps that cannot be filled by national-level data through the ReICO-NCP data collection, or to explore the topics that were not included in the ReICO-NCP data collection. Table in Data sources provides the date of last update used in the 2025-2026 ReICO project cycle.

- Eurostat
  - EU labour force survey (EU-LFS)
  - EU statistics on income and living conditions (EU-SILC)
- ILO
  - Labour Force Statistics (LFS)
  - International Labour Migration Statistics (ILMS)
  - Education and Mismatch Indicators (EMI)
  - Wages and Working Time Statistics (COND)

ILO data are collected from different sources at the national level. Please consult the ILO Survey Catalogue for more information on national-level data sources for each country. EU-LFS and EU-SILC extractions relevant for the ReICO project are provided by Eurostat.

Validating and compiling diverse data sources

The ReICO team reviews and validates data received from the ReICO NCPs to ensure reliability and comparability of data across countries. Data from other OECD works and international organisations are not validated by the ReICO team, assuming that these data already are of good quality. However, after indicators computed, these data sources are also cross-checked with each other and with the data from the ReICO NCPs to ensure coherence and to identify possible sources of differences in values.

International classifications

One prevalent issue with national-level data is that national-level classifications do not align with international classifications. Below are classifications used in the ReICO data:

- Field of study: International Standard Classification of Education - Fields of education and training 2013 (ISCED-F 2013) maintained by United Nations Educational, Scientific and Cultural Organisation Institute of Statistics (UNESCO-UIS)

- Occupation: International Standard Classification of Occupations 2008 (ISCO-08) from International Labour Organisation (ILO)
- Economic activities (industries): International Standard Industrial Classification of All Economic Activities Revision 4 (ISIC Rev. 4)
- Institutional sectors: Frascati institutional sectors

When national-level classification is used, data providers are first asked to align with the relevant international classification. Nevertheless, there may be slight differences after alignment. These cases are then noted in the metadata.

Data source selected for cross country analyses

The use of multiple data sources within the ReICO framework enables the calculation of indicators based on national and international datasets. This provides valuable analytical flexibility, allowing to compare results derived from different data sources and to clarify the impact of methodological differences on indicator values.

In addition, the availability of data from several data sources plays an important role in the validation and quality assurance process of the ReICO-NCP data collection. Cross-checking information across national, OECD and other international datasets help identify inconsistencies, assess plausibility, and improve the overall robustness of the compiled indicators.

For cross-country analyses, however, it is necessary to select a single, consistent data source for each indicator. The selection of the most appropriate data source is therefore guided by considerations of coverage, comparability, and data quality. The selection of data sources is made only for the ReICO key indicators database. Nevertheless, data users can access all the data for a broader set of indicators in the thematic databases and can select most appropriate sources for their own analyses.

The general rule is to prioritise the data from the ReICO NCPs over the international data source, and administrative register data over survey data. In addition, same sources are chosen for closely related indicators (e.g. age breakdown). However, case-by-case adjustments can be made depending on the indicator and data quality.

2 Guidance on using the data

OECD, EU27 and EU25 aggregates

Aggregates for all OECD countries or EU countries are useful for comparative analysis or a general overview. These are only available in the key indicator database given that there are enough countries with data. Aggregates are not calculated in the thematic databases.

OECD aggregates include the following countries: Australia, Austria, Belgium, Canada, Chile, Colombia, Costa Rica, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye, the United Kingdom, and the United States.

EU27 aggregates include all EU countries: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain and Sweden.

EU25 aggregates include 25 EU countries where the education data is available. This is a subset of EU27 aggregates excluding Cyprus and Malta.

There are two types of aggregates: average or total. The type computed depends on the nature of the indicator.

OECD, EU27 and EU25 average

OECD and EU27 averages are only calculated for percentage indicators (e.g. rates or shares), not for raw counts. Averages are computed only if at least 60% of countries in the group have data available – that is 23 countries for the OECD average, 17 countries for the EU27 average and 15 countries for the EU25 average.

Averages are either an unweighted (arithmetic) average or a weighted average of the countries in each group. The type of average depends on the usage and the original data source:

- Unweighted average assumes that each country contributes equally to the average. The OECD average therefore refers to an average of data values at the country level and can be used to answer the question of how an indicator value for a given country compares with the value for a typical or average country. It does not take into account the absolute size of each country. Most averages presented in the ReICO database are unweighted.
- Weighted average is used mostly in indicators from the Main Science and Technology Indicators (MSTI) and the Science, Technology and Innovation Scoreboard (STI.Scoreboard). Weighting factors depends on the context. Users can consult the methodological document of the original data source.

OECD and EU27 totals

OECD and EU27 totals are calculated by summing up all the components as if these countries are one theoretical country. Totals are only calculated for indicators on international mobility of academic authors.

Metadata

Metadata is all information that describes, explains, or gives context to the data. Among many types, reference metadata provides explanation and quality-related information on the data. Users are strongly encouraged to consult the reference metadata together with the data when using the data for analysis.

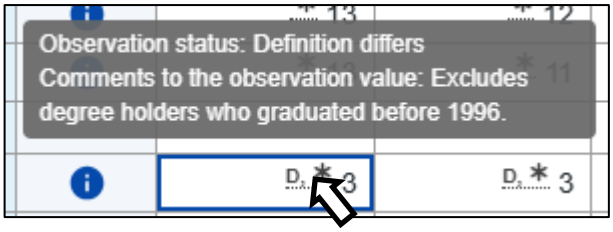
The ReICO database is complemented with two types of reference metadata: observation-level metadata and dataflow-level metadata.

Observation-level metadata

Observation-level metadata are the elements are attached with the data values and help interpret them. When users download the data, this information will also be downloaded together. See Figure 2.1.

- OBS_STATUS (observation status) explains the status of the value (e.g. estimated, provisional). This is shown as alphabets next to the value.
- UNIT_MULT (unit multiplier) indicates the scale (e.g. thousands, millions) if it is measured in units other than one.
- COMMENT_OBS (comments on observations) provides a comment or explanation for a specific observation. This is shown as asterisk next to the value, and full detail can be accessed by hovering over the asterisk.
- ORG_SOURCE (original data source) provides a quick indication on the type and/or the origin of the data. This information is displayed differently by database:
  - In the key indicators database, this observational-level metadata is hidden from display to ease data viewing. Data users can see the original data source for each data value by downloading the data in csv format.
- In the thematic databases, this information is a dimension that is explicitly displayed together with the data.

Figure 2.1. Viewing observation-level metadata



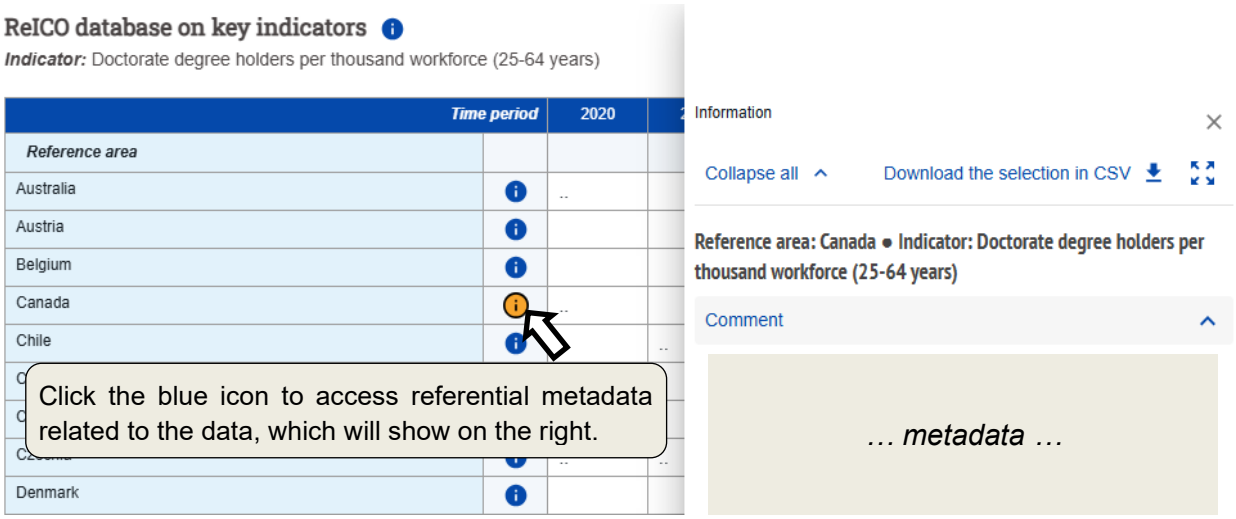
Hovering over the letter or asterisk next to the value displays observation status (flags) and brief comments on the data value (observation).

Series-level or dataflow-level metadata

Series- or dataflow-level metadata provides more detailed descriptions about the original data source and the caveats on the data points. This can be seen by clicking on a little blue icon ⓘ next to an element of the data (e.g. value, country name, measure name, dataflow name) or can be downloaded as a separate file. See Figure 2.2.

- Detailed information on original data sources
- Caveats and quality-related information

Figure 2.2. Accessing referential metadata



Flags

It is at the discretion of each country to indicate with the data values whether the value is considered unreliable (thus requiring attention when using the data) or inappropriate for publication. These cases arise mostly in the survey data where the size of sample is very small to make a good estimate. Data users are advised to check for any indication of these data quality information before using the data.

Countries have different rules on determining unreliable or confidential values. Moreover, the rule applied in the national data can be different from the rule applied to data from international organisations.

Table 2.1 lists observation status (flags) used in the ReICO database.

Table 2.1. Observation status in the ReICO database

Code	Description	Note
A	Normal value	This flag is suppressed in the display.
B	Time series break	Users are warned when comparing data across time.
D	Definition differs	Users are warned when using this data or making comparisons with other values.
E	Estimated value	Estimation was already made in the data before the data was processed by the ReICO team.
I	Imputed value	Imputation was made by the ReICO team to improve cross-country comparison.
K	Data included in another category	This flag is paired with “W”. See comments on observations.
O	Missing value	Data is missing.
M	Data cannot exist	Data on categories that are not applicable.
P	Provisional value	Data may be expected to change in the near future. Users are warned when using the data.
Q	Confidential value	Data is suppressed due to statistical confidentiality considerations.
U	Unreliable value	Quality of the data is low. Users are warned when using the data.
V	Unvalidated value	Yet to be validated. Users are warned when using the data.
W	Includes data from another category	This flag is paired with “W”. See comments on observations.

3 Quality issues in ReICO indicators

There are issues to consider when analysing certain ReICO indicators.

Estimation error in share indicators

Total value of a breakdown includes population with some unknown characteristics (e.g. people with no information on country of birth on country of birth breakdown). When the share of unknown category in the reported total is above certain threshold, values of breakdown categories will be masked and thus no values will be provided for the relevant indicators. This ensures that the raw counts and the computed shares are not greatly underestimated. There are different thresholds set based on the number of confidential data points in the breakdown categories.

- When there is no confidential data in any of the breakdown items (excluding unknown), the threshold of the difference between the actual total of the breakdown items and the reported total is at 1%. This assumes that unknowns compose less than 1% of the reported total.
- When there is at least one confidential data point among any of the breakdown items (excluding unknown), the threshold is at 5%. This assumes that less than 5% of the reported total can compose of unknowns and confidential items.

Unknowns remain in the computation (except for the case of indicators on occupation for working age population, see below) given that the share of unknown category in the reported total is above the threshold. This may cause some indicators to be underestimated, but by five percentage points at most.

Indicators on recent graduation cohort based on student registers

The ReICO-NCP data collection collects data on the cohort of degree holders who graduated within the last five years (hereafter, “recent graduation cohort”). This novel data helps to identify the stock of fresh graduates, particularly in the labour market.

It is advised to obtain this data from administrative registers or population survey on the resident population, to better serve the purpose of the analysis on this group in the labour market. However, some countries lack this type of data and turn to the alternative source, namely student/graduate registers. Being an administrative data source, the data will not have sampling errors. Nevertheless, the data covers all the graduates that graduated from institutions that are covered in the national-level registry, thus not covering those who graduated from institutions outside the country.

To inform the users, the observation status “E” (estimate) is used in the database for indicators on recent graduation cohorts.

Indicators on occupation or economic activities based on EU-LFS

In principle, confidential values cannot be published. Therefore, ReICO team receives the data without these confidential values (often the data from ReICO NCPs) or with values but must not be published in the end (data requested bilaterally to other international organisations). However, one exception is the EU-LFS data in certain topics.

According to Eurostat, however, the confidential values can be published when aggregated with another category, keeping in mind that the data users should not be able to infer confidential data from other data points available in the database.

By the nature, values of certain breakdown items will be very small. For example, occupation or economic activities (industry), where there are many breakdown items, it is highly likely to have some confidential data points in at least one of the breakdowns. Below are the topics that this exception will be applied:

- 2-digit ISCO occupation categories and 2-digit ISCED-F field of studies categories to construct indicators on occupation indicators on all working age population
- 1-digit economic activities categories to construct market economy aggregation on industries employed degree holders

When the confidential data is included in the aggregation, the comment includes “unreliable due to small sample … (EU-LFS)” with observation status “U” (unreliable).

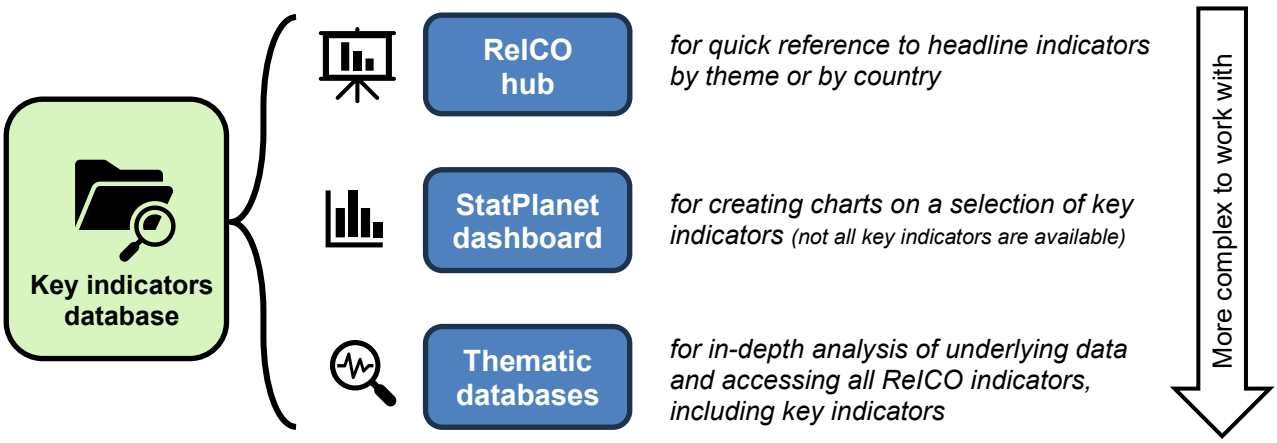
Indicators on occupation for working age population

The ReICO-NCPs collected number of working-age people by two-digit occupation. In many countries, share of employed population with occupation as “unknown” were above the 5% threshold. Yet, following the rule on treating unknowns, it would not allow further computation of indicators on share of employed by occupation. To allow more countries in the data, the rule is suppressed in this case only. Then the denominator (total population) excludes the unknowns. This indicated the comment on observation.

4 ReICO databases and related outputs

Users can explore ReICO indicator in different ways, depending on their use cases. Figure 4.1 overviews different types of outputs available.

Figure 4.1. ReICO databases and related outputs



Databases on the OECD Data Explorer

There are two types of databases from the ReICO project: Key indicators database and thematic databases.

Key indicators database

Key indicators database showcases a selection of ReICO indicators. Selection is also made on the sources, allowing data users to perform cross-country analysis without having to select the most appropriate data sources for each country and each indicator. Key indicator database is also used to feed into other visualisation products.

Thematic databases

Each ReICO theme has its own database:

- R&I Talent development
- R&I Labour Market
- R&I Talent Circulation

The thematic databases include all the ReICO indicators computed using all the available data sources gathered. This set of databases are meant to be used by expert data users, who wish to perform in-depth analysis, such as comparing indicators across different data sources. Due to its complexity, users of these databases require good understanding of methodological differences between different data sources.

Related outputs

ReICO hub

ReICO project website, as known as the ReICO hub, provides short analysis of the data with curated charts for an overview of the results. Depending on the interest, users can then consult a thematic page or a country page.

- Thematic pages showcase a selection of charts on headline indicators on one theme or topic. There are three ReICO themes and a dedicated page for indicators on gender.
- Country pages aim to provide an overview for each country in the ReICO project. A country page displays a selection of headline indicators for the country and users can select another country or country group (e.g. OECD) for side-by-side comparison. It also provides links to reference materials selected by the ReICO team and ReICO NCPs, which may provide contextual information.

StatPlanet dashboard

Dashboard (powered by StatPlanet) allows users to easily create customised charts on a subset of key indicators. Guidance on how to navigate the dashboard is available in this video (tutorial on how to use STI.Scoreboard platform, which uses the same service).

Annex A. Data sources

Table A A.1. Data sources provided by RelCO NCPs

Country	Name of the data source	Type of data
Australia	Census of Population and Housing	Census
Austria	Register-based labour market statistics	Register
Belgium	Census	Census
Brazil	Master's and Doctorate holders database (MDdb_CGEE) combining data from Sucupira Platform, Lattes Platform and Annual Social Information Report (RAIS)	Register #
	Continuous National Household Sample Survey (PNAD)	Census
	*Population Projections for Brazil and Federal Units: 2000-2070	Population estimates
Canada	Census	Census
	Postsecondary Student Information System (PSIS) and Education and Labour Market Longitudinal Platform (ELMLP)	Register #
Chile	Population and Housing Census	Census
	Chilean Careers of Doctorate Holders (CDH) survey	Survey
Colombia	Great Integrated Household Survey (Gran Encuesta Integrada de Hogares; GEIH)	Large-scale population survey
	Labor Observatory for Education (Observatorio Laboral para la Educación; OLE)	Register #
Croatia	Census of Population, Households and Dwellings	Census
	Annual surveys for Doctors of science, for University specialists and for Students graduated from university	Other survey
	*Population Estimates	Population estimates
Costa Rica	National Household Survey (ENAHO)	Large-scale population survey
	Register from Public Universities of Costa Rica	Register #
Czechia	Census	Census
	Labour Force Survey	Labour force survey
Denmark	Data compilation combining data from Population register, Register for Highest Education Attained (HEA), Register-Based Labour Force Statistics (RLFS)	Register
Estonia	Data compilation combining data from Employment Register, Declarations of Social and Income Tax by Tax and Customs Board, Business Register, Estonian Education Information System, Registries of Estonian Unemployment Fund, Registries of the Estonian Social Security Fund, Statistical Register of Population	Register
Finland	Integrated register system combining data from Register of completed education and degrees, Employment statistics, Structure on Earnings survey and Population register	Register
Germany	Administrative examination statistics (Pruefungsstatistik)	Register #
	National Academics Panel Study (Nacaps)	Other survey
Hungary	Graduate Career Tracking System (GCTS) - Integration of Administrative Databases (IAD)	Register
Ireland	Population Census data matched at individual level with administrative data from Revenue, the Higher Education Authority (HEA), and Quality and Qualifications Ireland (QQI).	Census
	Labour Force Survey	Labour force survey
Italy	Permanent census of population and housing	Census
	Labour Force Survey	Labour force survey
Japan	School Basic Survey and the Data Collection on Number of Awarded Degrees （学校基本調査及び学位授与状況）	Register
	Employment Status Survey	Labour force survey
	*Population Estimates （人口推計）	Population estimates
Korea	Population and Housing Census	Census

	Local Area Labour Force Survey	Labour force survey
Lithuania	Population and Housing Census	Census
	Data compilation from Students Register, State Social Insurance Fund Board, Employment Service's information system and Business Register	Register #
Latvia	Population census (Register-based)	Register
Malta	Census of Population	Census
	Labour Force Survey	Labour force survey
Netherlands	Labour Force Survey	Labour force survey
	Careers of Doctorate Holders Survey (Gepromoveerdenenquête)	Other survey
Norway	Data compilation combining data from National Education Database and Registers of Education and Labour Market	Register
New Zealand	Census of Population and Dwellings	Census
Peru	TUNI.PE	Register #
	* National Population Estimates and Projections	Population estimates
Portugal	Census	Census
	Higher Education Survey - Graduates	Register #
	Careers on Doctorate Holders Survey	Other survey
Romania	Population and Housing Census (RPL)	Census
	National Enrolment Student Registry platform - REI/RMUR	Register #
Spain	Annual Population Census	Census
	Integrated University Information System (SIIU)	Register #
Switzerland	Swiss Labour Force Survey	Labour force survey
United Kingdom	Annual Population Survey	Large-scale population survey
United States	American Community Survey (ACS)	Large-scale population survey
	National Survey of College Graduates (NSCG)	Other survey
	Current Population Survey (CPS)	Labour force survey

Note: Type of data is allocated based on the methodological characteristics of the data source, for the convenience of marking the type of data in the ReICO database. Asterisk (*) indicates data sources that do not provide data on degree holders. Hashtag (#) indicates registers on graduates.
Source: ReICO-NCP data collection (2024 and 2025 rounds).

Table A A.2. Links to OECD data

Directorate	Data	Project/publication webpage	Methodological document
Directorate for Science, Technology and Innovation (STI)	Main Science and Technology Indicators (MSTI)	Main Science and Technology Indicators	Available in the metadata of the OECD Data Explorer
	Research & Development Statistics (RDS)	Research and Development Statistics	Available in the metadata of the OECD Data Explorer
	Scientometric and bibliometric indicators	Science and bibliometric indicators	
	Science, Technology and Innovation Scoreboard (STI.Scoreboard)	Science, Technology and Innovation Scoreboard	Available at the bottom of the StatPlanet dashboard
Directorate for Education and Skills (EDU)	UNESCO-OECD-Eurostat (UOE) joint data collection	Education at a Glance	Available as support materials "Sources Methodologies and Technical Notes", Chapter B
	INES Network for Data Development on Labour Market and Social Outcomes of Education (LSO)	Education at a Glance	Available as support materials "Sources Methodologies and Technical Notes", Chapter A
	Programme for International Student Assessment (PISA)	PISA: Programme for International Student Assessment	Available in the data and methodology webpage
	Survey of Adult Skills (PIAAC)	PIAAC	Available in the data and methodology webpage

Directorate for Employment, Labour and Social Affairs (ELS)	Database on Immigrants in OECD and non-OECD Countries (DIOC)	Database on Immigrants in OECD and non-OECD Countries	Available in the project webpage

Table A A.3. Last update of international data sources for the June 2026 RelCO update

Data source	How the data was gathered	Last update of data
ILO data	Direct download from the publicly accessible ILO database	9 April 2026
Eurostat EU-LFS data	Requested a special tabulation	26 August 2025
Eurostat EU-SILC data	Requested a special tabulation	2 September 2025 (income) 19 May 2026 (well-being)
OECD data from ELS	Requested a special tabulation	13 May 2026
OECD data from EDU	Direct download from the publicly accessible OECD Data Explorer	31 May 2026
OECD data from STI	Direct download from the publicly accessible OECD Data Explorer	30 July 2026

Note: Some parts of data may have been retrieved earlier than the last update date.

Table A A.4. Number of indicators by country and RelCO theme in the key indicators database

Indicators available for the last three years (2022-2024)

Country	R&I talent development	R&I labour market	R&I talent circulation	Total
Argentina	9 (9%)	51 (21%)	7 (12%)	**67 (17%)**
Australia	56 (55%)	25 (10%)	33 (58%)	**114 (28%)**
Austria	79 (77%)	198 (80%)	50 (88%)	**327 (81%)**
Belgium	57 (56%)	158 (64%)	32 (56%)	**247 (61%)**
Brazil	78 (76%)	126 (51%)	24 (42%)	**228 (56%)**
Bulgaria	73 (72%)	177 (72%)	34 (60%)	**284 (70%)**
Canada	57 (56%)	29 (12%)	29 (51%)	**115 (28%)**
Chile	67 (66%)	88 (36%)	40 (70%)	**195 (48%)**
China (People's Republic of)	3 (3%)	24 (10%)	7 (12%)	**34 (8%)**
Colombia	69 (68%)	54 (22%)	22 (39%)	**145 (36%)**
Costa Rica	66 (65%)	90 (37%)	20 (35%)	**176 (43%)**
Croatia	75 (74%)	156 (63%)	24 (42%)	**255 (63%)**
Cyprus	49 (48%)	157 (64%)	23 (40%)	**229 (57%)**
Czechia	97 (95%)	217 (88%)	33 (58%)	**347 (86%)**
Denmark	86 (84%)	191 (78%)	50 (88%)	**327 (81%)**
Egypt	6 (6%)	9 (4%)	6 (11%)	**21 (5%)**
Estonia	92 (90%)	219 (89%)	48 (84%)	**359 (89%)**
Finland	101 (99%)	215 (87%)	50 (88%)	**366 (90%)**
France	72 (71%)	204 (83%)	28 (49%)	**304 (75%)**
Germany	86 (84%)	197 (80%)	49 (86%)	**332 (82%)**
Greece	83 (81%)	220 (89%)	44 (77%)	**347 (86%)**
Hungary	87 (85%)	208 (85%)	46 (81%)	**341 (84%)**
Iceland	65 (64%)	151 (61%)	44 (77%)	**260 (64%)**
India	4 (4%)	17 (7%)	7 (12%)	**28 (7%)**
Indonesia	21 (21%)	52 (21%)	7 (12%)	**80 (20%)**
Ireland	85 (83%)	173 (70%)	40 (70%)	**298 (74%)**
Israel	67 (66%)	68 (28%)	29 (51%)	**164 (40%)**
Italy	84 (82%)	202 (82%)	42 (74%)	**328 (81%)**
Japan	81 (79%)	77 (31%)	33 (58%)	**191 (47%)**
Korea	98 (96%)	163 (66%)	24 (42%)	**285 (70%)**

Latvia	80 (78%)	179 (73%)	49 (86%)	**308 (76%)**
Lithuania	75 (74%)	163 (66%)	34 (60%)	**272 (67%)**
Luxembourg	64 (63%)	180 (73%)	50 (88%)	**294 (73%)**
Malta	26 (25%)	109 (44%)	7 (12%)	**142 (35%)**
Mexico	59 (58%)	55 (22%)	11 (19%)	**125 (31%)**
Netherlands	57 (56%)	137 (56%)	31 (54%)	**225 (56%)**
New Zealand	95 (93%)	129 (52%)	49 (86%)	**273 (67%)**
Norway	86 (84%)	208 (85%)	51 (89%)	**345 (85%)**
Peru	17 (17%)	38 (15%)	6 (11%)	**61 (15%)**
Poland	78 (76%)	220 (89%)	35 (61%)	**333 (82%)**
Portugal	99 (97%)	222 (90%)	51 (89%)	**372 (92%)**
Romania	59 (58%)	138 (56%)	31 (54%)	**228 (56%)**
Slovak Republic	84 (82%)	196 (80%)	38 (67%)	**318 (79%)**
Slovenia	77 (75%)	229 (93%)	47 (82%)	**353 (87%)**
South Africa	7 (7%)	76 (31%)	7 (12%)	**90 (22%)**
Spain	93 (91%)	221 (90%)	45 (79%)	**359 (89%)**
Sweden	75 (74%)	199 (81%)	51 (89%)	**325 (80%)**
Switzerland	86 (84%)	218 (89%)	51 (89%)	**355 (88%)**
Türkiye	84 (82%)	231 (94%)	50 (88%)	**365 (90%)**
United Kingdom	89 (87%)	153 (62%)	51 (89%)	**293 (72%)**
United States	98 (96%)	158 (64%)	49 (86%)	**305 (75%)**
Viet Nam	8 (8%)	0 (0%)	6 (11%)	**14 (3%)**

Note: Indicator coverage out of 405 indicators (R&I Talent development: 102, R&I Labour market: 246, R&I Talent Circulation: 57) in parentheses.
Source: RelCO key indicators database.

Table A A.5. Number of indicators by country in the thematic indicators databases

Indicators available for the last three years (2022-2024)

Country	R&I talent development	R&I labour market	R&I talent circulation	Total
Argentina	10 (4%)	101 (25%)	13 (9%)	**124 (16%)**
Australia	184 (74%)	93 (23%)	67 (46%)	**344 (43%)**
Austria	213 (85%)	358 (89%)	104 (72%)	**675 (85%)**
Belgium	216 (86%)	364 (91%)	106 (73%)	**686 (86%)**
Brazil	183 (73%)	184 (46%)	49 (34%)	**416 (52%)**
Bulgaria	193 (77%)	302 (75%)	69 (48%)	**564 (71%)**
Canada	162 (65%)	68 (17%)	60 (41%)	**290 (36%)**
Chile	188 (75%)	194 (48%)	103 (71%)	**485 (61%)**
China (People's Republic of)	13 (5%)	53 (13%)	13 (9%)	**79 (10%)**
Colombia	185 (74%)	71 (18%)	49 (34%)	**305 (38%)**
Costa Rica	160 (64%)	130 (32%)	47 (32%)	**337 (42%)**
Croatia	232 (93%)	352 (88%)	73 (50%)	**657 (83%)**
Cyprus	83 (33%)	283 (71%)	47 (32%)	**413 (52%)**
Czechia	236 (94%)	359 (90%)	101 (70%)	**696 (87%)**
Denmark	196 (78%)	321 (80%)	104 (72%)	**621 (78%)**
Egypt	10 (4%)	25 (6%)	12 (8%)	**47 (6%)**
Estonia	210 (84%)	370 (92%)	105 (72%)	**685 (86%)**
Finland	236 (94%)	366 (91%)	105 (72%)	**707 (89%)**
France	200 (80%)	330 (82%)	62 (43%)	**592 (74%)**
Germany	231 (92%)	337 (84%)	105 (72%)	**673 (85%)**
Greece	219 (88%)	359 (90%)	89 (61%)	**667 (84%)**

Hungary	229 (92%)	362 (90%)	92 (63%)	**683 (86%)**
Iceland	178 (71%)	256 (64%)	88 (61%)	**522 (66%)**
India	18 (7%)	21 (5%)	13 (9%)	**52 (7%)**
Indonesia	40 (16%)	62 (15%)	13 (9%)	**115 (14%)**
Ireland	201 (80%)	281 (70%)	90 (62%)	**572 (72%)**
Israel	182 (73%)	96 (24%)	63 (43%)	**341 (43%)**
Italy	209 (84%)	377 (94%)	97 (67%)	**683 (86%)**
Japan	173 (69%)	127 (32%)	65 (45%)	**365 (46%)**
Korea	224 (90%)	280 (70%)	49 (34%)	**553 (69%)**
Latvia	186 (74%)	301 (75%)	119 (82%)	**606 (76%)**
Lithuania	231 (92%)	364 (91%)	88 (61%)	**683 (86%)**
Luxembourg	190 (76%)	299 (75%)	106 (73%)	**595 (75%)**
Malta	55 (22%)	220 (55%)	37 (26%)	**312 (39%)**
Mexico	152 (61%)	59 (15%)	25 (17%)	**236 (30%)**
Netherlands	188 (75%)	300 (75%)	77 (53%)	**565 (71%)**
New Zealand	219 (88%)	210 (52%)	105 (72%)	**534 (67%)**
Norway	197 (79%)	343 (86%)	120 (83%)	**660 (83%)**
Peru	67 (27%)	42 (10%)	12 (8%)	**121 (15%)**
Poland	219 (88%)	360 (90%)	72 (50%)	**651 (82%)**
Portugal	236 (94%)	368 (92%)	107 (74%)	**711 (89%)**
Romania	213 (85%)	309 (77%)	72 (50%)	**594 (75%)**
Slovak Republic	223 (89%)	341 (85%)	80 (55%)	**644 (81%)**
Slovenia	205 (82%)	373 (93%)	95 (66%)	**673 (85%)**
South Africa	14 (6%)	128 (32%)	13 (9%)	**155 (19%)**
Spain	230 (92%)	365 (91%)	104 (72%)	**699 (88%)**
Sweden	194 (78%)	329 (82%)	107 (74%)	**630 (79%)**
Switzerland	196 (78%)	355 (89%)	120 (83%)	**671 (84%)**
Türkiye	220 (88%)	375 (94%)	104 (72%)	**699 (88%)**
United Kingdom	205 (82%)	251 (63%)	120 (83%)	**576 (72%)**
United States	211 (84%)	254 (63%)	114 (79%)	**579 (73%)**
Viet Nam	8 (3%)	0 (0%)	12 (8%)	**20 (3%)**

Note: Indicator coverage out of 782 indicators (R&I Talent development: 237, R&I Labour market: 401, R&I Talent Circulation: 144) in parentheses.
Source: RelCO thematic databases.

Annex B. Frequently asked questions on the data

Using the RelCO database on the OECD Data Explorer

Q. How do I use the database?

Basic functionalities of the OECD Data Explorer are explained in the webpage on the OECD Data Explorer. Users can view and download the data, read and download metadata, build API query, create snapshot URL to share the table and create simple charts.

Q. How often is the RelCO database updated?

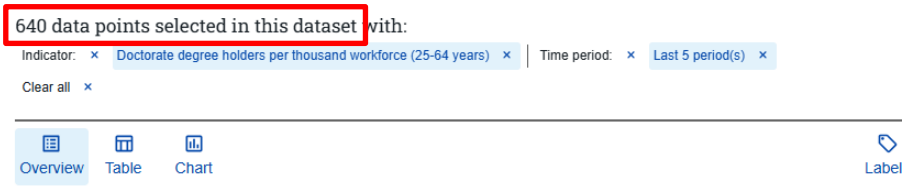
The main update occurs annually (around June/July) but indicators linked to live databases (e.g. OECD Education data) may refresh as required. The last update time of databases can be consulted at the bottom of the "Overview" tab.

Q. Database loads very slow.

On a large dataset (e.g. thematic database), displaying too many data points at once loads data very slowly or even freezes the window. Displaying fewer data points (less than six thousand data points) improves usability and performance. Selection can be adjusted on the left panel under "Refine your data selection". The number of filtered data points appears at the top of the data table.

In rare cases, server performance and local bandwidth also affect speed.

Figure A B.1. How to find the number of data points selected



Q. Some identifiers or dimension names (e.g. reference area) sounds obscure.

The OECD Data Explorer is built with SDMX standards, where labelling of frequently used items (e.g. country names) has been harmonised throughout the entire organisation, with other international organisations (e.g. ILO) and some national statistical agencies. To cater for different use cases, some labels may sound unclear for general users. Unfortunately, this cannot be adjusted by the RelCO team. Please refer to the OECD Data Explorer Q&A for additional information.

Q. Where do I find the original data source used to compute the indicator as well as relevant metadata?

This depends on the database.

- For key indicators database, this information can be consulted in two ways:
- Download csv file to see the type of original data source for all the data points
- Click the blue ℹ icon next to the country name to see the detailed information for one indicator and country
- For thematic databases, the type of original data source is already displayed as a dimension. The details of the data provided by ReICO NCPs are available by clicking the little blue icon ℹ next to the country name and source type. This opens the metadata panel on the right.

Please refer to Metadata (page 8) section for more information.

Q. How were the preferred data source selected for key indicators?

Please refer to Data source selected for cross country analyses (page 6) section.

Q. How do I cite the ReICO database?

Citation practices are under review. For now, users are recommended to use the following:

Source: Research and Innovation Careers Observatory (ReICO), ReICO Database, based on multiple data sources, OECD (2026)

Reference: OECD (2026), ReICO Database, http://oe.cd/reico, accessed on Day/Month/Year.

Using and interpreting data

Q. Why are the values from different data sources different?

Many of the differences observed can be explained by data collection methodology. Some possible reasons are given with an example.

- Reference date: Census collects data on the population as of one selected date, which may differ from the reference date (or week) of labour force survey.
- Weights: Eurostat uses yearly weights to prepare EU-LFS tables, because the information on field of studies is collected on a yearly basis, whereas OECD-LSO data for many European countries is prepared using quarterly weights.
- Standard error: Small-scale survey data, such as labour force survey, produces large standard error on small countries or detailed breakdowns.
- Sampling error: Survey data intrinsically has sampling errors, while register data does not.

Q. I want to know more about the original data source.

Please refer to the metadata panel of the database hosted on the OECD Data Explorer. It can be displayed by clicking on the little blue icon ℹ. Summary of the data sources provided by ReICO NCPs can be consulted the Annex A of this document.

Q. How can I compare easily across countries and/or indicators?

StatPlanet dashboard allows multiple country and/or indicator selection. Data can also be compared across time on the dashboard. See StatPlanet dashboard (page 13) section to access the tutorial on how to use the StatPlanet dashboard.

Q. Are indicators normalised to ease comparison across countries?

Most indicators are available in normalised format (e.g. number per thousand people, percentages) to ease comparison between countries of different sizes.

Q. How does the ReICO data address comparability issues between national and international classification standards?

ReICO data is collected based on international classifications to ensure comparability and harmonisation. For example, ISCED and ISCED-F for education data and ISCO and ISIC for employment characteristics data. Though differences with national classifications are acknowledged, and ReICO NCPs are strongly encouraged to report data based on the international classifications or develop a working version of crosswalk between national and international classification.