

SDG Goal 9 Industry, innovation and infrastructure

SDG Target 9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending

SDG Indicator 9.5.2 Researchers (in full-time equivalent) per million inhabitants

1. Name of data series	
Researchers in full-time equivalents per 1 Mn inhabitants	
Compliant with SDG metadata: yes	SDG Metadata

2. Definition of indicator
The indicator shows the number of research and development personnel working as researchers (in full-time equivalent) per 1 million inhabitants.
3. Comparison with SDG metadata (as of 12/07/2017)
The indicator perfectly covers the international metadata.

4. Data description
<p>Research and experimental development (R&D) comprise creative and systematic work undertaken in order to increase the stock of knowledge – including knowledge of humankind, culture and society – and to devise new applications of available knowledge. R&D personnel include all persons engaged directly in R&D activities within a statistical unit. Researchers are professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods.</p> <p>The data on researchers is given in full-time equivalent and is collected by the Federal Statistical Office of Germany on an annual basis for Higher education Sector, Government sector and Private non-profit Sector. Data for Business enterprise sector is collected by Wissenschaftsstatistik GmbH im Stifterverband für die Deutsche Wissenschaft on behalf of the Federal Ministry of Education and Research.</p> <p>The data on population for the years 2012 and after was calculated by the Federal Statistical Office based on the Census in 2011 and has, since then, continuously been updated by the Microcensus. The Microcensus is an inquiry directed to households, designed to obtain information on the labour market and related issues through a series of personal interviews with a sample of 1 %. The Microcensus is designed as a multi-topic survey, integrating many different subject fields. The European Labour Force Survey (LFS) is integrated into the Microcensus and is harmonised in all EU member states.</p> <p>Data on population are the results of the latest population census (currently: 2011 Census) rolled forward in a breakdown by sex, age, marital status and citizenship, using both statistics of population change (migration, births, deaths, entering into marriages or registered same-sex partnerships) and information on changes in citizenship and the dissolution of marriages or registered same-sex partnerships.</p>

Before 2011, updated census data from 1987 (Federal Republic of Germany) and the population register of October 1990 (German Democratic Republic) were used. For the years before 2011 the results for population were calculated backwards using the census 2011 and migration, birth and death statistics.	
5. Calculation method	
Researchers per million inhabitants = $\frac{\text{researchers (full-time equivalents)}}{\text{total population (number)}} \times 1.000.000$	
6. Unit of measure	Number

7. Timeliness	8. Frequency
Researchers: t + 18 months Population: t + 8 months	Annual
9. Last regular revision	10. Revised period
Not applicable	Not applicable

11. Accessibility of source data
Researchers: https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bildung-Forschung-Kultur/Forschung-Entwicklung/_inhalt.html Population: GENESIS online 12411-0005: Population: Germany, reference date, age
12. Metadata on source data
Researchers (Only available in German): https://www.destatis.de/DE/Methoden/Qualitaet/Qualitaetsberichte/Bildung/einfuehrung.html Population: https://www.destatis.de/DE/Methoden/Qualitaet/Qualitaetsberichte/Bevoelkerung/einfuehrung.html
13. Related SDG data series (duplicate indicators or sub-indicators to same indicator)
Not applicable

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