

## 9: Building Resilient Infrastructures, Promoting Inclusive and Sustainable Industrialization and Fostering Innovation.

9.5 Strengthen scientific research, improve the technological capacities of industrial sectors in all countries, particularly in developing countries, including, until 2030, encouraging innovation and substantially increasing the number of research and development workers per million people and public and private spending on research and development.

### 9.5.1 Expenditure on research and experimental development as a percentage of GDP.

Expenditure on research and experimental development as a percentage of GDP.

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Not linked to other indicators

Ministry of Science and Technology, Higher Education and Professional Technician

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Expenditure on Scientific Research and Experimental Development (R&D) as a percentage of Gross Domestic Product (GDP) expresses the portion of GDP that is channeled to R&D.

The indicator is a direct measure of spending on Scientific Research and Experimental Development (ID) in a given year.

Percentage

The OECD Frascati Manual (OECD, 2015)

MCTESTP, National Survey of Scientific Research and Experimental Development (ID).

The ID Survey is conducted based on the Frascati Manual Methodology (2015). The statistical operation is national in nature, as it covers Scientific Research Institutions (IIC), Higher Education Institutions (IES), Companies and Private Non-Profit Institutions (IPSFL) in the country.

In the Survey, the census is used to collect data in Higher Education Institutions and Scientific Research Institutions located in the national territory, taking into account the reduced universes of these Institutions. As for Private Non-Profit Companies and Institutions (IPSFL), Stratified Proportional Sampling is used due to the enormous size of the universe.

## Data Collection, Processing and Analysis

Data collection is based on physical and online questionnaires, combined with the face-to-face interview method, sending questionnaires by e-mail and links that allow access to the online questionnaires of the Information System (e-Survey). Data pre-processing is done automatically in the Information System (e-Survey). Then, the verification and validation of the data was made using the STATA Statistical Packages and the Excel package for graphing.

Overall response rate considered is 75%.

June 30th of each year

March 30th of the following year

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The Ministry and agency delegated by INE to produce statistics from the Science, Technology, Higher Education and Professional Technical Sector according to Joint Order, December 2002, Republic Bulletin No. 10, I SERIES, of March 5, 2003.

This indicator measures the Intensity of Scientific Research and Experimental Development in a given year.

Research and development (R&D) data need to be collected through expensive national surveys, and are not carried out regularly, as their realization is conditional on financial resources.

This indicator is obtained by the ratio between the Gross Expenditure on Scientific Research and Experimental Development and the GDP of a given year, multiplied by 100%

The results of each statistical operation are analyzed by the Department of Studies and Statistics and then presented on the Technical and Advisory Councils of the MCTESTP for internal appraisal and validation, and finally presented in seminars for the purposes of Final validation.

The production of this indicator uses the international methodological guidelines established in the OECD Frascati Manual (OECD, 2015) to allow comparability with other countries.

In process the creation of the Quality Management System at the level of the National Statistical System, however at the Ministry level there is a Department of Studies and Statistics that checks the quality of the production of Sector Statistics throughout the process.

To guarantee the quality required in the Statistics production process, the sector uses all correlated administrative information sources, in order to complement, validate and measure the information obtained. Also during the process of analysis and establishment of the value data, the sources of origin of the basic information are questioned whenever there are doubts or anomalous variations in the results obtained.

The instruments for assessing the quality of statistical processes and products at the level of the National Statistical System are being developed based on the 19 quality principles established by the United Nations Statistics Commission.

The data for this indicator are available annually and are not disaggregated.

The data produced by the sector for the estimation of this indicator allows international comparability, since they obey the international criteria and standards established by the OECD Frascati Manual

(OECD, 2015).

Report on Indicators for Scientific Research and Experimental Development.