

Explanatory Notes on Main Statistical Indicators

Research and Development (R&D) refers to the creative and systematic work carried out to increase the knowledge stock (including knowledge about human, culture and Society) and design new applications of existing knowledge, including basic research, applied research and experimental development. Basic research and applied research are collectively referred to as scientific research. R&D activities shall meet five conditions: novelty, creativity, uncertainty, systematization and transferability (replicability).

Basic Research refers to a kind of experimental or theoretical work that does not preset any specific application or use purpose. Its main purpose is to obtain the basic principles, laws and new knowledge of phenomena and observable facts. The results are usually presented as general principles, theories or laws, and mainly in the form of papers, works, research reports, etc. Including pure basic research and targeted basic research. Pure basic research is a basic research that does not seek economic or social benefits, nor does it seek the application of achievements, but only for the purpose of adding new knowledge. Directional basic research is the basic research that provides some basic knowledge for the identification and solution of current known or future predictable problems.

Applied Research refers to the initial research carried out to acquire new knowledge and achieve a specific practical purpose or goal. Applied research is to determine the possible use of basic research results, or to determine new methods to achieve specific and predetermined goals. The research results are mainly in the form of papers, works, research reports, theoretical models or invention patents.

Experimental and Development refers to the systematic research conducted to develop new products and processes or improve existing products and processes by using the knowledge obtained from scientific research and practical experience and other knowledge generated in the research process. Its

research results are mainly in the form of patents, proprietary technologies, and innovative product prototypes, original prototypes and devices.

R&D Personnel refer to persons engaged in research, management and supporting activities of R&D, including persons in the project teams, persons engaged in the management of S&T activities of enterprises and supporting staff providing direct service to the research projects. This indicator reflects the size of personnel engaged in R&D activities with independent intellectual property.

Full-time Equivalent of R&D Personnel refers to the sum of the full-time persons and the full-time equivalent of part time persons converted by workload. For instance, if there are 2 full-time persons and 3 part time workers (20%, 30% and 70% of working hours respectively on R&D activities), the full-time equivalent is $2+0.2+0.3+0.7=3.2$ person-years. This is an internationally comparable indicator of input of personnel in S&T activities.

Patent is an abbreviation for the patent right and refers to the exclusive right of ownership by the inventors or designers for the creation or inventions, given from the patent offices after due process of assessment and approval in accordance with the Patent Law. Patents are granted for inventions, utility model and designs. This indicator reflects the achievements of S&T and design with independent intellectual property.

Inventions refer to the new technical proposals to the products or methods or their modifications. This is universal core Indicator reflecting the technologies with independent intellectual property.

Utility Models refer to the practical and new technical proposals on the shape and structure of the product or the combination of both. This indicator reflects the condition of technological results with certain technical content.

Designs refer to the aesthetics and industrially applicable new designs for the shape, pattern and

color of the product, or their combinations. This indicator reflects the appearance design achievements with independent intellectual property.

Regular Institutions of Higher Learning

refer to full-time universities, independent colleges, higher vocational schools and other ordinary higher education institutions that have passed the national general higher education enrollment examination, recruit high school graduates as the main training objects, and implement higher academic education. Universities and independent colleges mainly implement education at and above the undergraduate level. Independent colleges mainly implement undergraduate education. Colleges and universities and higher vocational schools carry out education at the junior college level. Other general higher education institutions refer to those institutions that undertake the tasks of the national general enrollment plan without counting the number of

schools, including the branches of ordinary colleges and universities, junior college classes, etc.

Institutions of Higher Learning for Adults

refer to educational establishments, set up in line with relevant rules approved by the government, enrolling staff and workers with senior secondary school or equivalent education, and providing higher education of schools.

Enrollment Rate of Primary School Age Children refers to the proportion of school age children enrolled at schools to the total number of school age children both in and outside schools (including retarded children, but excluding blind, deaf and mute children). The formula is:

Enrollment Rate of Primary School-age Children = $(\text{Total Primary School-age Children at Schools} / \text{Total Primary School-age Children Both at and Outside Schools}) \times 100\%$