

Explanatory Notes on Main Statistical Indicators

Regular Institutions of Higher Learning refer to educational establishments set up according to the government evaluation and approval procedures, enrolling graduates from senior secondary schools and providing higher education courses and training for senior professionals. They include full time universities, colleges, high professional schools, high professional vocational schools and others.

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 courses in many forms of correspondence, spare time, or full time for adults. Professionals thus trained receive a qualification equivalent to graduates studying regular courses at regular universities, colleges and professional colleges. Institutions of higher learning for adults include schools of high education for staff and workers, schools of high education for peasants, colleges for management cadres, pedagogical colleges, independent correspondence colleges, Radio and TV universities and other educational establishments. Other educational establishments are responsible for enrolling adult students but not covered in the number of schools.

Research and Development (R&D) refers to systematic and creative activities in the field of science and technology aiming at increasing the knowledge and using the knowledge for new application. R&D includes 3 categories of activities: basic research, applied research and experiments and development. The scale and intensity of R&D are widely used internationally to reflect the strength of S&T and the core competitiveness of a country in the world.

Basic Research refers to empirical or theoretical research aiming at obtaining new knowledge on the fundamental principles of phenomena of observable facts to reveal the nature and law of movement of objects and to acquire new discoveries or new theories. Basic research takes no specific or designated application as the aim of the research. Results of basic research are mainly released or disseminated in the form of scientific papers or monographs. This indicator reflects the original innovation capacity of knowledge.

Applied Research refers to creative research aiming at obtaining new knowledge on a specific objective or target. Purpose of the applied research is to identify the possible use of results from basic research, or to explore new (fundamental) methods or new approaches. Results of applied research are expressed in the form of scientific papers, monographs, fundamental models or invention patents. This indicator reflects the exploration of ways to apply the results of basic research.

Experiments and Development refer to systematic activities aiming at using the knowledge from basic and applied

researches or from practical experience to develop new products, materials and equipment, to establish new production process, systems and services, or to make substantial improvement on the existing products, process or services. Results of experiment and development activities are embodied in patents, exclusive technology, and monotype of new products or equipment. In social sciences, experiment and development activities refer to the process of converting the knowledge from basic or applied researches into feasible programmes (including conduct of demonstration projects for assessment and evaluation). There are no experiment and development activities in the science of humanities. This indicator reflects the capability of transferring the results of S&T into technique and products, which is the materialized measurement of S&T pushing forward the economic and social development.

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.

Total Internal Expenditure of Funds on R&D refers to the real expenditure of surveyed units on their own R&D activities(basic research, application study, test and development)including direct expenditure on R&D activities,expenditure on capital construction and material processing by others.Excluding the expenditure on production activities,return of loan,and fee transferred to cooperated and entrusted agencies on R&D 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 models 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.