# Explanatory Notes on Main Statistical Indicators

**Patent**

is an abbreviation for the patent right and refers to the exclusive right of ownership of 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.

**Research and Experimental Development (R&D)**

refers to systematic and creative activities aimed at expanding the overall volume of knowledge and applying the knowledge to invent new uses. It includes basic studies, application research and experimental development. For enterprises, their R&D mainly belongs to experimental development activities.

**Basic Research** refers to empirical or theoretical research aiming at obtaining new knowledge on the fundamental principles regarding phenomena or observable facts to reveal the intrinsic nature and underlying laws 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 innovation capacity for original 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 uses of results from basic research, or to achieve the desired target explore by adopt new approaches. Results of applied research are expressed in the form of scientific papers, monographs, fundamental models or invention patens. This indicator reflects the exploration of ways to apply the results of basic research.

**Experiment and Development** refers 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, and measures the realization of S&T in spearheading the economic and social development.

**R&D Personnel**

refer to persons engaged in research, administration 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.

**R&D Personnel as Full-time Equivalent**

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 are 2+0.2+0.3+0.7=3.2 person-years. This is an internationally comparable indicator of S&T manpower input.

**Technology Market**

can be regarded narrowly as technical-dealings place where technique transfer is made or technology-related good traded at certain time. As shown in statistical datum presently, turnovers are resulting either from purchase or from transfer of techniques, together with numbers related to the inquiry or services involved in technologies.