STATISTICS ESTONIA

RESEARCH AND DEVELOPMENT (R&D)

Instructions for filling out questionnaires 1133 and 1134

The questionnaires are used to collect information for an annual overview of the human resources and funds related to research and development. The data are used by the Ministry of Education and Research for assessing the R&D activities of the state, policy-making, and other such actions. The R&D survey is based on the regulation of the European Union (EU) and uses a methodology consistent with that of other EU countries, so that the data could be compared internationally.

The questionnaires, with the instructions, are available on the website of Statistics Estonia, under Submit data / Questionnaires. The codes of the questionnaires are 1133 and 1134. To submit the data, please use the electronic data transmission environment eSTAT. For more information on how to fill out and submit the questionnaire, please call +372 625 9300 or email klienditugi@stat.ee.

Instructions on the use and functioning of eSTAT can be found by clicking Help -> Submit data -> Completing and submitting questionnaires on the menu bar on the left of the screen.

Data on R&D serve as an input for statistical activities "Government finance") and "Sustainable development indicators".

The questionnaire "Research and development" (code 1133) is filled out by entities belonging to the non-profit sector. The questionnaire "Research and development in companies" (code 1134) is filled out by companies.

Please make sure to inform Statistics Estonia about changes in the general data of the company/organisation or change the data in eSTAT under the menu item Edit contacts.

Accuracy of the data ensures truthfulness of statistical information.

Publication of data

The publication dates of new statistics are provided in the release calendar, which is available to the consumers on the website of Statistics Estonia. On the 1st of October each year, the dates of publication of the statistical database, news releases, public data files, main indicators of IMF, and dates of publications (month of issuing) for the following year appear in the release calendar.

The data are published in the statistical database https://andmed.stat.ee/en/stat, under Economy -> Science. Technology. Innovation.

Internationally comparable statistics about R&D activities are available in the Eurostat database at https://ec.europa.eu/eurostat/data/database.

The OECD publishes the main R&D indicators in the publication "Main Science and Technology Indicators".

A news release about the costs in the field of R&D is published once a year. News releases are available at https://www.stat.ee/en/news by searching for the relevant keyword.

Symbols, definitions, and explanations in questionnaires

"X" marks the fields that you do not need to fill in. Fields with a grey background are summed up automatically if the questionnaire is filled out online. The data on these fields cannot be changed and the values can only be seen after saving the table. The prefilled data are on a blue background.

When filling out the questionnaire, make sure that you are on the correct field. Logical (arithmetic) controls are applied on some fields of the questionnaire to avoid possible errors when inserting data. If the data you have inserted contain errors, an error message will be displayed.

Questionnaires with major errors cannot be confirmed or submitted.

General definitions and explanations

Definition	Explanation
Research and development (R&D)	Research and development (R&D) is creative and systematic work, the **aim of which is to obtain new knowledge, including knowledge about people, culture and society, and the implementation of such knowledge**. This work is not only carried out in research institutions and universities, but it also includes the development of new treatment methods and testing of medicaments in medical institutions, home research and scientific description of exhibits in museums, nature conservation and environmental protection surveys which are often carried out together with non-profit organisations, etc. To distinguish R&D from other similar activities which may be performed by the same employees, it must be noted that the main criterion of R&D is **innovativeness and the absence of solution for a scientific or a technological problem at the early stage of the work**.
R&D in medicine	In medicine, one and the same activity may or may not fall under R&D. For instance, a routine autopsy is not R&D, however, a special investigation for establishing the side effects of certain cancer treatments is R&D. Similarly, a routine blood test or a bacteriological test is not R&D, whereas a special programme blood tests for patients taking a new drug is R&D. The initial phases of testing new drugs are R&D but when the drug already has an authorisation for use and it is constantly manufactured, testing is only considered R&D if it adds new scientific or technological knowledge. Development and testing of new treatment and diagnostic methods is R&D.
R&D in software development	For a software development project to be classified as R&D, its completion must be dependent on a scientific or technological advance, and the aim of the project must be systematic resolution of a scientific and/or technological uncertainty. In addition to the software that is part of an overall R&D project, the R&D associated with software as an end product or software embedded in an end product could also be classified as R&D. Advances in software development are generally incremental rather than revolutionary. Therefore, the use of software for a new application or purpose does not by itself constitute an advance. A software project does not have to be completed because failure may also give new knowledge about the possibilities of certain approaches. R&D includes: • the creation of new or more efficient algorithms based on new techniques; • the development of new operating systems or languages, the design and development of new means of data governance, communication software and software development means; • the development of internet technology; • the development of the software for collecting, transferring, storage, recovery, processing and display of data; • testing and development works for developing programs and software systems with the aim to fill technological gaps; • development of means or technologies using software in the fields of IT (image processing, geographic information systems, symbol recognition, speech synthesis, AI, etc.); • the creation of new and original encryption or security techniques.
R&D in software development	**R&D does not include:** • the development of application software and information systems using known methods and existing software tools; • transferring programs to another programming language; • adding user functionality to existing application programs; • debugging of systems; • support activities for existing systems and programs, e.g., routine debugging of existing systems and programs, unless this is done prior to the end of the experimental development process; • compilation of user manuals; the use of standard methods of encryption, security verification and data integrity testing.
R&D in service activities	Pursuant to the definition of R&D, this includes service projects which result in new knowledge or the use of knowledge to devise new applications. In addition to the conditions provided above, the following are indicators that may help to identify the presence of R&D in service activities: • links with public research laboratories, cooperation agreements with universities and research institutions; • the involvement of staff with doctoral degrees or doctoral students; • the publication of research findings in scientific journals, the organisation of scientific conferences or involvement in scientific reviews. **Examples of R&D in banking and insurance**: • mathematical research relating to financial risk analysis;

Definition	Explanation
	• the development of risk models for credit policy; • the experimental development of new software for home banking; • the development of techniques for investigating consumer behaviour for the purpose of creating new types of accounts and banking services; • research to identity new risks or new characteristics of risk that need to be taken into consideration in insurance contracts; • research on social phenomena with an impact on new types of insurance; • R&D related to electronic banking and insurance, Internet-related services and e-commerce applications; • R&D related to new or significantly improved financial services (new concepts for accounts, loans, insurance, and saving instruments). **Examples of R&D in some other service activities**: • analysis of the effects of economic and social change on consumption and leisure activities; • the development of new methods for measuring consumer expectations and preferences; • the development of new methods to deliver and measure social service outcomes that can be adapted in a variety of different socioeconomic or cultural settings; • the development of new survey methods and instruments; • the development of tracking and tracing procedures (logistics); • research into new travel and holiday concepts. **R&D does not include:** • keeping daily records of temperature or atmospheric pressure, except when investigating new methods of measuring or analysis; • the use of standard methods of applied psychology for choosing or classifying personnel, except in case the purpose is to improve the method or investigate new methods; • activities related to scientific-technical information — the collection, translation, analysis and transmission thereof, bibliographic, patent or licence service, except in case it is carried out in a framework of an R&D project;
R&D in service activities	• general-purpose data collection, the processing and analysis of such data in the field of natural and social phenomena, e.g., topographical mapping, routine geological, hydrological or meteorological surveying, also regular statistical activities. (Generally only the state has resources to perform such activities.) If such activities are performed as a part of a specific R&D programme or if the main purpose is to collect data for such a programme, the activity is classified as R&D. However, data collected for other or general purposes (e.g., sampling of unemployment) should be excluded from R&D even if exploited for research. Market surveys are not R&D; • testing and standardisation — standard testing and benchmarking activities, routine tests or analyses of materials, products, processes, soil, or atmosphere; • feasibility studies — the investigation of engineering and social projects based on existing methodology. However, the feasibility studies on research projects are part of R&D; • patent and licence work, except patent works directly linked with research projects.
R&D in education	In higher education institutions research and teaching are always very closely linked, as most academic staff undertake both, and many buildings, as well as much equipment, serve both purposes. Because the results of research feed into teaching, and because the information and experience gained in teaching can often result in an input to research, it is difficult to define where the education and training activities of higher education staff and their students end and R&D activities begin, and vice versa. R&D's elements of novelty distinguish it from routine teaching and other work-related activities. Since the research activity performed by doctoral students should be included in the overall R&D performed by the higher education sector, both they and the university staff acting as their instructors or supervisors should be included in R&D personnel totals. The time spent by the university staff to undertake tasks that are not related to research should be excluded from the estimation of the actual R&D performance. Part of the time of academic staff is spent on self-education (reading books and articles, participation in conferences and seminars, etc.) but only the part related to a certain project is regarded as R&D. **R&D does not include** giving or receiving education, training or vocational training.
Division of R&D by type	R&D is divided into three types of activities: • basic research • applied research

Definition	Explanation
	• experimental development
Basic research	Theoretical or experimental surveys for obtaining new knowledge about the basics of phenomena and events, without the aim of immediate implementation of such knowledge.
Experimental development	Systematic work which is conducted based on the knowledge from basic and applied research for developing a new or improved material, product, process, system, or service.
Applied research	Original surveys for obtaining new knowledge with the primary aim to apply such knowledge in one specific field or for a specific purpose.
Examples of how to differentiate basic research, applied research and experimental development	**Examples** The study of a given class of polymerisation reactions under various conditions is basic research. The attempt to optimise one of these reactions with respect to the production of polymers with given physical or mechanical properties (making it of particular utility) is applied research. Experimental development then consists of "scaling up" the process that has been optimised at the laboratory level and investigating and evaluating possible methods of producing the polymer as well as products to be made from it. The modelling of a crystal's absorption of electromagnetic radiation is basic research. The study of the absorption of electromagnetic radiation by this material under varying conditions (for instance, temperature, impurities, concentration, etc.) to obtain given properties of radiation detection (sensitivity, rapidity, etc.) is applied research. Testing a new device using this material in order to obtain a better detector of radiation than those already existing (in the spectral range considered) is experimental development. The development of a new method for the classification of immunoglobulin sequences is basic research. Investigations undertaken in an effort to distinguish between antibodies for various diseases is applied research. Experimental development then consists of devising a method for synthesising the antibody for a particular disease on the basis of knowledge of its structure and clinical tests of the effectiveness of the synthesised antibody on patients who have agreed to accept an experimental advanced treatment.
Examples of how to differentiate basic research, applied research and experimental development	• A study about how the properties of carbon fibres could change according to their relative position and orientation within a structure is basic research. The conceptualisation of a method to allow for processing carbon fibres at industrial level with a degree of precision at the nano-scale could be the outcome of some applied research. Testing the use of new composite materials for different purposes is experimental development. • Controlling material processes in the domain where quantum effects occur is an objective to be pursued through basic research. Developing materials and components for inorganic and organic light-emitting diodes for improved efficiency and cost reduction is applied research. Experimental development could be aimed at identifying applications for advanced diodes and incorporating them in consumer devices. • Searching for alternative methods of computation, such as quantum computation and quantum information theory, is basic research. Investigation into the application of information processing in new fields or in new ways (e.g. developing a new programming language, new operating systems, program generators, etc.) and investigation into the application of information processing to develop tools such as geographical information and expert systems are applied research. Development of new applications software and substantial improvements to operating systems and application programmes are experimental development. • The study of sources of all kinds (manuscripts, documents, monuments, works of art, buildings, etc.) in order to better comprehend historical phenomena (the political, social, cultural development of a country, the biography of an individual, etc.) is basic research. Comparative analysis of archaeological sites and/or monuments displaying similarities and other common characteristics (e.g. geographic, architectural, etc.) to understand interconnections of potential relevance to teaching material and museum displays is applied research. The development of new instruments and methods for studying artefacts and natural objects recovered through archaeological endeavours (e.g. for the age-dating of bones or botanic remains) is experimental development. **Agricultural sciences and forestry** Basic research. Researchers investigate genome changes and mutagenic factors in plants to understand their effects on the phenome. Researchers investigate the genetics of the species of plants in a forest in an attempt to understand natural controls for disease or pest resistance.

Definition	Explanation
	Applied research. Researchers investigate wild potato genomes to locate the genes responsible for resistance to potato blight in an effort to improve the disease resistance in domestic/crop potatoes. Researchers plant experimental forests where they alter the spacing and alignment of the trees to reduce the spread of disease while ensuring the optimum arrangement for maximum yield. Experimental development. Researchers create a tool for gene editing by using knowledge of how enzymes edit DNA. Researchers use existing research on a specific plant species to create a plan for improving how a company plants its forests to achieve a specific goal. **Nanotechnology** Basic research. Researchers study the electrical properties of graphene by using a scanning tunnelling microscope to investigate how electrons move in the material in response to voltage changes. Applied research. Researchers study microwaves and thermal coupling with nanoparticles to properly align and sort carbon nanotubes. Experimental development. Researchers use research in micromanufacturing to develop a portable and modular micro-factory system with components that are each a key part of an assembly line. **Computer and information sciences** Basic research. Research on the properties of general algorithms for handling large amounts of real-time data. Applied research. Research to find ways to reduce the amount of spam by understanding the whole structure or business model of spam, what spammers do, and their motivations in spamming. Experimental development. A start-up company takes code developed by researchers and develops the business case for the resulting software product for improved on-line marketing. **Economics and business** Basic research. A review of theories on the factors determining regional disparities in economic growth. Economists conducting abstract research in economic theory that focuses on whether a natural equilibrium exists in a market economy. The development of new risk theories. Applied research. The analysis of a specific regional case for the purpose of developing government policies. Economists investigating the properties of an auction mechanism that could be relevant to auctioning the telecommunications spectrum. The investigation of new types of insurance contracts to cover new market risks or new types of savings instruments.
Examples of how to differentiate basic research, applied research and experimental development	Experimental development. The development of operational models, based upon statistical evidence, to design economic policy tools to allow a region to catch up in terms of growth. The development by a national telecommunications authority of a method for auctioning the telecommunications spectrum. The development of a new method to manage an investment fund is experimental development as long as there is sufficient evidence of novelty. **Education** Basic research. Analysis of the environmental determinants of learning ability. The investigation by researchers of the effect of different types of manipulatives on the way first graders learn mathematical strategy by changing manipulatives and then measuring what students have learned through standardised instruments Applied research. The comparative evaluation of national education programmes aimed at reducing the learning gap experienced by disadvantaged communities. The study by researchers of the implementation of a specific math curriculum to determine what teachers needed to know to implement the curriculum successfully. Experimental development. The development of tests for selecting which educational programme should be used for children with specific needs. The development and testing (in a classroom) of software and support tools, based on fieldwork, to improve mathematics cognition for student special education. **Social and economic geography** Basic research. Researchers seek to understand the fundamental dynamics of spatial interactions. Applied research. A research study analyses the spatial-temporal patterns in the transmission and diffusion of an infectious disease outbreak. **History** Basic research. Historians study the history and human impact of glacial outburst floods in a country.

Definition	Explanation
	Applied research. Historians examine past societies' responses to catastrophic natural events (e.g. floods, droughts, epidemics) in order to understand how contemporary society might better respond to global climate change. Experimental development. Using previous research findings, historians design a new museum exhibit on the adaptations of past human societies to environmental changes; this serves as a prototype for other museums and educational installations. **Linguistics** Basic research. Linguists study how different languages interact as they come into contact with one another. Applied research. Speech therapists examine the governing neurology of languages and how humans acquire language skills. Experimental development. Linguists develop a tool for diagnosing autism in children based on their language acquisition, retention and use of signs. **Music** Basic research. Researchers develop a transformational theory that provides a framework for understanding musical events not as a collection of objects that have particular relationships to each other but as a series of transformational operations applied to the basic material of the work. Applied research. Researchers use historical records and the techniques of experimental archaeology to recreate an ancient and long-disappeared musical instrument and to determine how it would have been constructed, how it was played and the types of sounds it would have produced. Experimental development. Music educators and theorists work to produce new pedagogical materials based on new discoveries in neuroscience that change our understanding of how humans process new sounds and information.
Total number of persons employed at the end of the reference period	Persons who work based on an agreement (employment contract or contract of services) and get paid for their work (wage or salary, fee, remuneration for piecework, compensation): owners of the company listed among the persons who get paid; full- or part-time employees; trainees, seasonal and remote employees; unemployed persons employed based on an agreement between the company and an employment mediation institution; persons temporarily absent from work (on sick leave, paid holiday, educational leave, on strike, etc.). The number of employed persons does not include persons absent from work for a longer period of time (on parental leave, in military service, etc.), employees of other companies who provide outsourced services (e.g., persons who get paid by other companies), or unpaid volunteers.
Employees engaged in R&D	Scientists and engineers, other R&D personnel (technicians, support staff) who spend at **least 10%** of their working time on R&D.
Full-time equivalent	Working time spent on R&D by R&D personnel in person-years. If an employee is not 100% engaged in R&D, assess the share of R&D in their working time (or in the working time of a group of employees). **Examples** 1. In the first half-year, a full-time scientist was fully engaged in R&D, in the second half-year, however, the same person was engaged in R&D with the workload of 30%. Therefore, the working time spent on R&D in the reference year is 0.5 multiplied by 100% plus 0.5 multiplied by 30%, i.e., 0.65 full years of service. 2. A faculty member worked in a university for a year and was engaged in R&D 30% of their working time (spent 70% of their working time on the teaching process). Working time spent on R&D is 1 multiplied by 30%, i.e., 0.30 full years of service. 3. A scientist worked full time at an institute for 8 months and was fully engaged in R&D. Working time spent on R&D is 8/12 multiplied by 100%, i.e., 0.67 full years of service. The paid working time spent on R&D by doctoral and master's students engaged in R&D is indicated in the report together with the working time of scientists and engineers. When calculating FTE, the time spent on R&D by employees who are no longer employed at the end of the year or for whom the share of R&D in their work was below 10% is also taken into account. Thus, all working time spent on R&D in the reference year is taken into consideration. Working time data may be estimated.
Posts	
Scientists and engineers	All persons with a scientific degree or a higher education diploma who are engaged as professionals in basic or applied research or who perform experimental development works for creating new

Definition	Explanation
	knowledge, products, processes, methods and systems; all teaching staff engaged in R&D, also the heads of research organisations and their subunits who are engaged in planning or organising scientific engineering projects; doctoral and master's students engaged in original surveys.
Other R&D personnel (technicians, support staff)	This includes technicians engaged in R&D who have a vocational or technical education diploma and who work under the supervision of scientists or engineers. Equivalent to technicians in social sciences and humanities are the employees performing their work tasks under the supervision of scientists and engineers. It also covers the auxiliary staff (workers, officials, secretaries) who are involved in or directly linked to R&D projects.
Fields of activities	Fields of activities are determined based on FORD classification (Fields of Research and Development Classification).
Natural sciences	Mathematics and computer sciences (hardware development belongs to the field of engineering sciences), physical sciences (incl. astronomy, space studies, physics, etc.), chemical sciences, earth and related environmental sciences (geology, geophysics, mineralogy, natural geography, meteorology, atmospheric sciences, oceanology, volcanology, paleoecology, etc.), biological sciences (biology, botany, bacteriology, microbiology, zoology, entomology, genetics, biochemistry, biophysics, etc., except medical and veterinary science).
Engineering and technology sciences	Civil engineering, electrical engineering and electronics (incl. communication technology, hardware development, etc.), other engineering sciences (machine and apparatus construction, industrial technology, food technology, geodesy, industrial chemistry, etc.).
Medical and health sciences	Basic medicine (anatomy, cytology, physiology, pharmacy, toxicology, immunology, pathology, etc.), clinical medicine (anaesthesiology, paediatrics, gynaecology, surgery, stomatology, neurology, psychiatry, radiology, therapeutics, otorhinolaryngology, ophthalmology, etc.), health sciences (social medicine, hygiene, infant care, epidemiology, health care services).
Agricultural and veterinary sciences	Scientific areas related to agriculture, forestry and fishing, veterinary science.
Social sciences	Psychology and cognitive sciences, economics and business, education, other social sciences (anthropology, ethnology, demography, geography, urban planning, management science, law, sociolinguistics, political science, sociology). Physical anthropology, natural geography and psychophysiology belong to the scientific area of natural sciences.
Humanities and the arts	History (incl. archaeology, numismatics, palaeography, genealogy, etc.), languages and literature, other humanities (philosophy, science history, art, art history, art criticism, theology, creative fields, etc.).
Level of education	Data about the level of education of employees is obtained based on the document indicating the highest level of education. Candidates of sciences are regarded as doctors.
Doctor	Holders of a doctoral degree and candidates of sciences.
Master	Only the holders of master's degree, not equalised persons.
Academic higher education	Graduates of bachelor studies and Soviet time university.
Professional higher education	Graduates of professional higher education, diploma studies, and vocational higher education.
Vocational secondary education	Former graduates of technical schools. Persons with vocational secondary education belonging into the category of scientists and engineers are indicated on the row of professional higher education.
Secondary education	Secondary education includes both secondary as well as vocational secondary education.
Without secondary education	Employees who have not obtained the right to continue their studies at the level of higher education.
Sources of funding of R&D costs	
State	Indicate the summed-up R&D costs which are made from core financing of both the state as well as local government budget, also from the funds granted through state-funded funds and foundations (incl. grants). Also includes the own funds of public sector institutions (obtained from the sale of goods and services, rental of rooms, etc.). Public sector institutions include state or local government institutions and units which do not provide higher education services. Support from the EU, international organisations, foreign countries and non-governmental organisations of foreign countries granted through the state budget is considered support from the state, not from foreign sources.

Definition	Explanation
Companies	Indicate the R&D costs from the fees of contract works, contractual fees, sponsorship sums, etc. from Estonian companies.
Non-profit private sector	Indicate the R&D costs from the fees of contract works, contractual fees, sponsorship sums, etc. from Estonian non-profit organisations. Also includes the own funds of non-profit organisations (obtained from the sale of goods and services, rental of rooms, etc.).
Universities and higher education institutions	Indicate the R&D costs from the fees of contract works, contractual fees, etc. from Estonian universities and higher education institutions. Also includes the own funds of universities and higher education institutions or the associated research institutions (income from property, dividends, tuition fees, sale of goods and services, etc.). R&D labour costs may also be covered from sums obtained for other purposes.
Foreign sources	Indicate the R&D costs from funds obtained from international funds or international agreements, from the fees of contract works from foreign countries. The total sum of costs is indicated in detail on rows 49–52 of Table 7. Support from the EU, international organisations, foreign countries and non-governmental organisations of foreign countries granted through the state budget is considered support from the state, not from foreign sources.
R&D costs by type of costs	R&D costs are indicated without VAT. Depreciation costs are not included. R&D works and services purchased in the framework of internal R&D projects are shown under current costs.
Labour costs	Wages and salaries, social tax and unemployment insurance premium, holiday pay, scholarships, social fund payments, etc. Labour costs of employees not directly engaged in R&D (security service, cleaning and maintenance personnel, etc.) are indicated among other current costs. Labour costs of master's and doctoral students engaged in R&D must be indicated under labour costs.
Other current costs	Maintenance expenses of buildings and facilities or premises (lease and rent, fees for electricity, water and heating), costs for the purchase of smaller equipment, instruments, materials, and other current assets, for business travels, also for repair works, communication services, etc. The labour costs of persons not directly involved in R&D (security service, cleaning and maintenance personnel, etc.) are indicated if their activities were related to the premises or equipment used for R&D. Also included under current costs are the amounts paid to external personnel if they contributed contractually to internal R&D activities (self-employed consultants and other R&D consultants, R&D grant managers, volunteers, professors emeritus, etc.).
Acquisition, construction and capital repairs of buildings and facilities	Costs (investments) for the acquisition, building and capital repairs of buildings and facilities (incl. for reconstructing or extending), also for the acquisition of land.
Equipment, apparatus, machinery, inventory and means of transport	Costs (investments) for the acquisition of equipment, apparatus, machinery, inventory and means of transport (capitalised costs in acquisition cost, incl. reconstruction expenses), also for the creation of basic libraries or information banks. This includes the purchase of computers and computer systems.
Intangible fixed assets	Patents, licences, obtained and created special software, etc.
Other R&D-related investments	Other R&D-related investments not listed above.
Costs on R&D by fields of application	Fields of application are determined based on NABS 2007 classification, where the fields of application are divided into 13 subcategories based on the social-economic purpose.
Agriculture, forestry and fishing	Development of agriculture, forestry, fishing and the production of food products; fertilisers, biocides, bio-pest control methods, mechanisation of agriculture; impact of cultivated forestry on the environment; development of the productivity of agriculture and food technology; livestock farming and dairying; veterinary and other agricultural sciences. Reduction of pollution, development of rural areas, energy measurements, construction and planning of buildings are not taken into consideration.
Industrial production and technology	Production and processing technology; industrial products and their production processes; production efficiency; waste management.
Generation, distribution and rational use of energy	Production, storage, transfer, distribution of all types of energy and rational use of energy; energy production and distribution efficiency; energy saving; reduction of carbon dioxide emissions; renewable energy sources; nuclear power, etc.
Transport, telecommunication and other infrastructures	Construction, urban planning, land use, transport, telecommunication, water supply and wastewater treatment, avoiding the damages of urbanisation, etc.

Definition	Explanation
Protection of the environment	Environmental impact studies, sources of pollution, reduction of pollution in the atmosphere, on the ground, in water and in working and living environment, pollution measuring devices, etc. (incl. protection of species, noise and vibration, radioactive pollution).
Health sciences	Treatment, healthy diet, medicine studies, social medicine, drug studies, geriatrics, occupational healthy, control of diseases, etc.
Culture, spare time, religion and media	Culture, religion and spending spare time as a social phenomenon and the impact thereof on the society; racial and cultural integration and the related social-cultural changes. Includes topics related to sport, art, libraries, archives, language skills, etc. if handled as a social phenomenon.
Education	Formal and non-formal education, special education, pedagogy, didactics, educational services.
Political and social systems, structures and processes	Public administration; economic policy; regional studies; social changes, processes and conflicts; social assistance and social security; social aspects of work arrangement; gender studies; protection of minorities, etc.
Studies and use of earth's crust, hydrosphere and atmosphere	Geophysics, oceanology, hydrology, meteorology, exploration and exploitation of mineral resources (incl. in the seabed), atmospheric studies, polar studies, etc. Does not include land improvement, land use, fishing or pollution.
Space exploration and capture	Applied research on astronomy and astrophysics, satellites, space flights, stratospheric studies, etc. (but not with the purpose of national defence).
National defence	National defence studies, incl. nuclear power or space studies funded from the national defence budget. However, the civilian studies funded from the national defence budget (meteorology, medicine, telecommunication) should be indicated under the respective field of application.
Application not specified	Field of application is not determined for surveys which are conducted for the advancement of knowledge, but which cannot be connected with a specific application, and for which the field of application was also not determined when funds were allocated. In most cases such research is basic research.

More information

Frascati Manual 2015. Guidelines for Collecting and Reporting Data on Research and Experimental Development, available at http://www.oecd.org/sti/inno/frascati-manual.htm

Main R&D indicators, available at http://www.oecd.org/sti/msti.htm

Good advice is always certain to be ignored, but that's no reason not to give it.

/Agatha (Mary Clarissa) Christie/