

# Research and Development (R&D) Explained

We have attempted to provide some basic guidelines below, to help you define and measure R&D. Further information can be found in the Frascati Manual, which is the international source of methodology for collecting and using R&D statistics.

## Examples of R&D to be included

- Clinical trials phases I, II and III
- Research into and original development (or substantial modification) of computer software, such as new programming languages and new operating systems
- Design, construction and operation of prototypes where the main objective is technical testing or to make further improvements
- Construction and operation of pilot plants while still in the experimental phase and the primary purpose of operation is non-commercial
- 'Feedback R&D' directed at solving problems occurring beyond the original R&D phase, such as the resolution of technical problems arising in initial production runs
- Research work in the social sciences, arts and humanities

## Examples of R&D to be excluded

Unless used primarily as part of (or for the support of) R&D projects, the following are excluded:

- Clinical trial phase IV
- Scientific and technical information services
- Prospecting, exploring or drilling for minerals, petroleum or natural gas
- Policy related studies, management studies, efficiency studies
- Consumer surveys, advertising, market research
- Routine quality control and testing
- General purpose or routine data collection
- Feasibility studies
- Routine computer programming, systems maintenance or software application
- Commercial, legal and administrative aspects of patenting, copyrighting or licensing activities
- Activities associated with standards compliance
- Specialised routine medical care, e.g. routine pathology services

## At what stage does R&D end?

R&D ends when the work is no longer experimental, for example, when the material, product etc. is substantially developed and the primary objective is to:

- develop markets
- plan for pre-production and undertake pre-production activities (such as demonstration of commercial viability, tooling up and trial production runs)
- get production or control systems working smoothly

If the primary objective is to make further technical improvements, then the work is still defined as R&D.