RESEARCH AND DEVELOPMENT ACTIVITY IN 2015 (PRELIMINARY DATA)

In 2015, the total amount of expenditure on research and development activity (R&D) was 847.2 million BGN which was 27.4% more than the previous year.

R&D intensity (R&D expenditure as % of GDP) also increased in comparison with the previous year - from 0.79% in 2014 to 0.96% in 2015. Bulgarian national goal, related to the realization of Europe 2020 strategy, is to reach 1.5% R&D intensity in 2020.

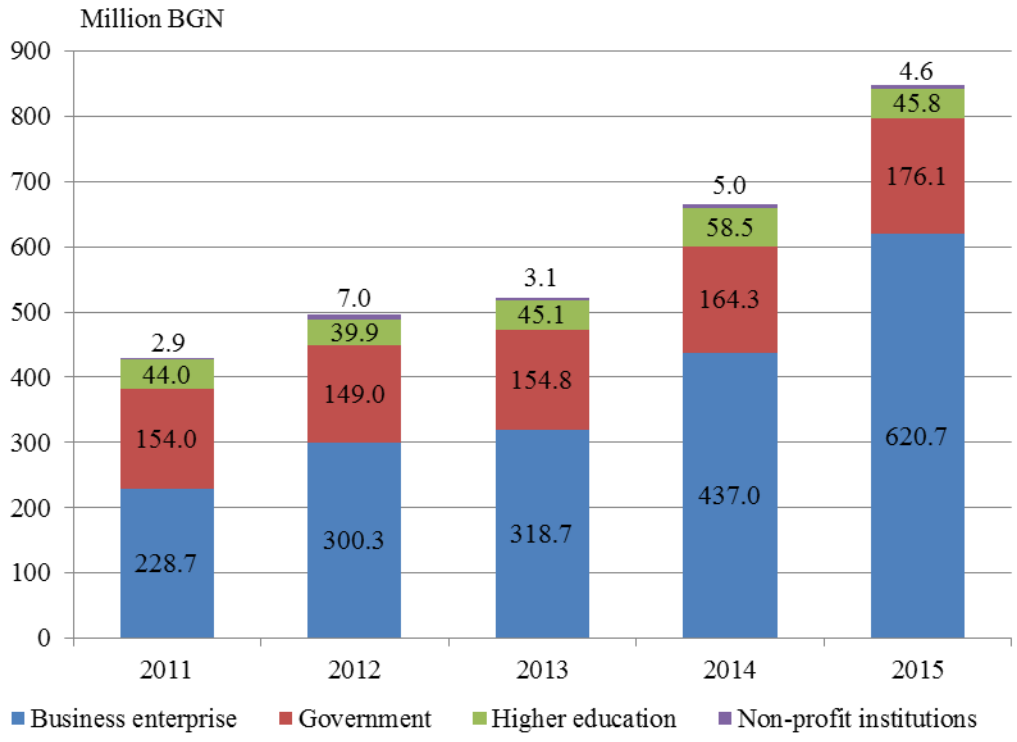
1. R&D expenditure

	2011	2012	2013	2014	2015
R&D expenditure in Bulgaria - million BGN	429.6	496.2	521.7	664.8	847.2
R&D expenditure as % of GDP	0.53	0.60	0.63	0.79	0.96

Almost all of the growth of the total R&D expenditure in 2015 compared to the previous year was due to the business enterprise sector where expenditure on R&D increased by 183.7 million BGN or 42.0%.

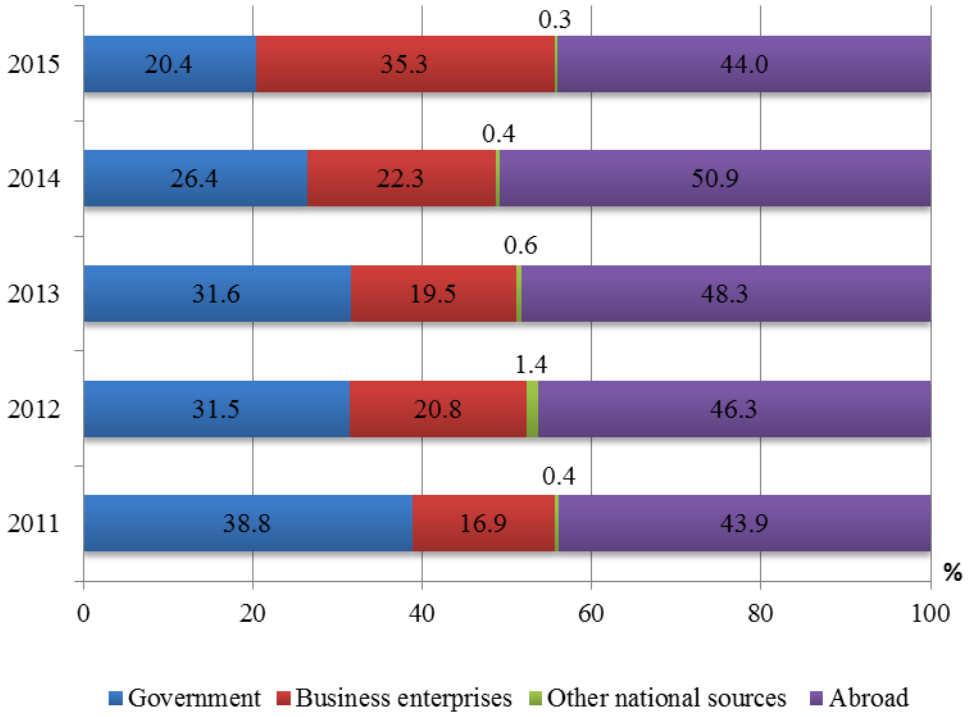
The business enterprise sector was the largest of the four institutional sectors of R&D performance, accounting for 73.3% of the total R&D expenditure. It was followed by the government sector, higher education sector and private non-profit sector with share of 20.8%, 5.4% and 0.5% respectively (Figure 1).

Figure 1. R&D expenditure by institutional sectors



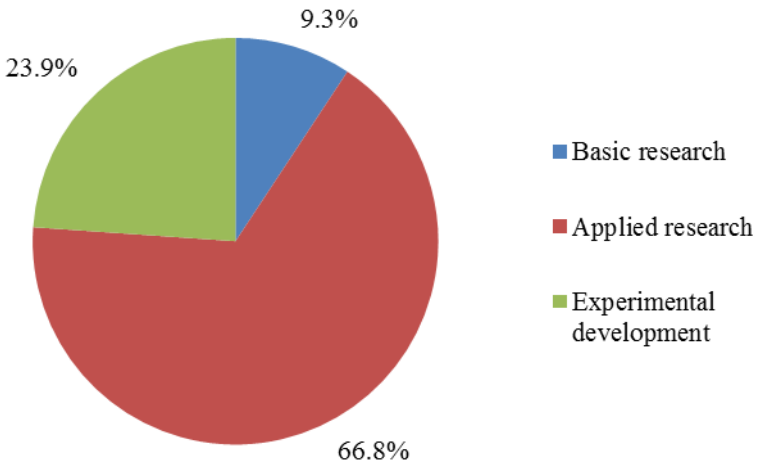
The R&D activity was financed from the state budget, businesses, other national sources and from abroad. Foreign sources of funds continued to have the largest share in the R&D funding in Bulgaria - in 2015 it amounted to 44.0% of total R&D expenditure. At the same time the highest growth rate indicated the R&D funds coming from the business enterprise sector, they have doubled compared to the previous 2014 and accounted for 35.3% of total R&D expenditure in the country (Figure 2).

Figure 2. Structure of R&D expenditure by source of funds



In the structure of current R&D expenditure by type of research in 2015, as in the previous year, the highest share belonged to applied research - 66.8% (488.9 million BGN), followed by experimental development and basic research - with share of 23.9% (174.8 million BGN) and 9.3% (68.5 million BGN) respectively (Figure 3).

Figure 3. Structure of current R&D expenditure by type of R&D, 2015

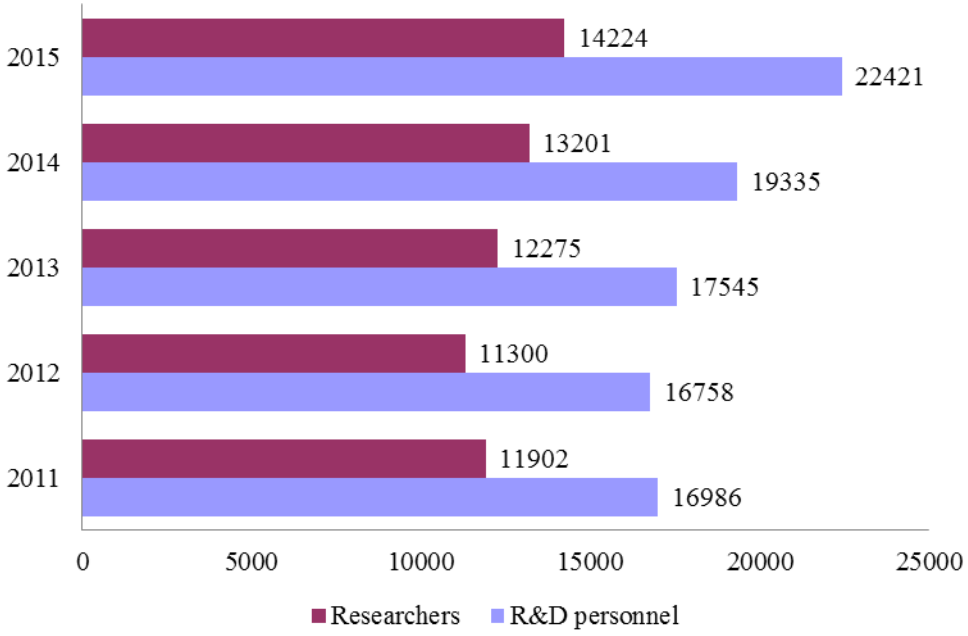


In 2015, the personnel employed with research and development activity amounted to 22 421 persons (in full-time equivalent) which was 16.0% more than in the previous year (Figure 4). The share of women in total R&D personnel was 48.3%, as the difference in the level of employment between genders was 3.4 percentage points in favor of men.

The number of researchers also increased by 1 023 persons or by 7.7% compared to 2014. In 2015, almost half of researchers (47.6%) hold a doctorate degree.

For the first time in 2015, main part of the scientific staff is concentrated in companies and research institutes in the business enterprise sector - 42.0% of the total staff (in full time equivalent) or 9 409 persons. In organizations and institutions of the government sector in scientific activities were involved 8 328 people, which constitutes 37.1% of the total R&D personnel in 2015. In the higher education sector 4 521 persons were engaged in research and development, their share is 20.2%.

Figure 4. R&D personnel (in full-time equivalent)



The growth rate in 2015 compared to 2014 of business R&D expenditure (42.0%) and R&D personnel in business enterprise sector (73.2%) is mostly due to the large number of new R&D performing companies in 2015.

Methodological notes

Research and development activity (R&D) comprises any creative work undertaken on a systematic basis in order to increase the volume of knowledge, including knowledge of man, culture and society, and the use of this knowledge to devise new applications. R&D activity covers basic research, applied research and experimental development.

The indicator 'R&D expenditure' is defined as all expenditure for R&D performed within a statistical unit, whatever the source of funds. The R&D expenditure comprises current costs and capital expenditure on R&D.

The indicator 'R&D personnel' measures the human resources employed directly in R&D activity, responsible for creation, application and dissemination of new knowledge. R&D personnel include all persons engaged directly in R&D, as well as those providing direct services (R&D managers, administrators and clerical staff). R&D personnel comprise researchers and other R&D personnel. Personnel in full-time equivalent (FTE) are calculated on the basis of working time spent on R&D activity during the reference year.

According to the methodological manual 'Frascati' (Proposed standard practice for surveys on research and experimental development - Frascati Manual, OECD, 2002), adopted by Eurostat, R&D expenditure and R&D personnel are distributed in four institutional sectors:

- Business enterprise sector - includes all firms, organizations and institutions whose primary activity is production of market goods and services (other than those included in Higher education sector);

- Government sector - comprises general administrations of central or state government which furnish, but do not sell common services to satisfy the individual and collective needs of society and which are predominantly budgetary financed (other than those included in Higher education sector);

- Higher education sector includes all universities, colleges, other institutions of post-secondary education, research and development sectors to higher education institutions and university hospitals;

- Private non-profit sector - includes foundations, associations, etc. providing non-market services.