

Bulgaria is a Modest Innovator. Over time, performance has not changed relative to that of the EU in 2010.

Innovation system

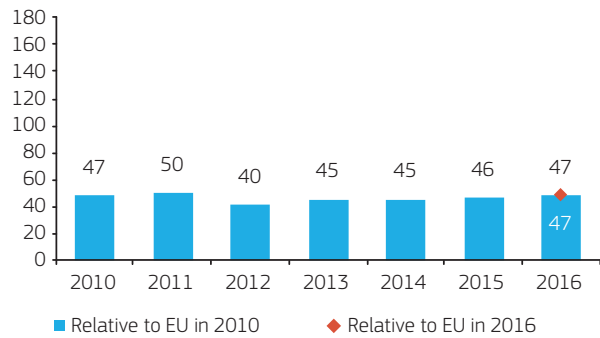
Relative strengths of the innovation system are in Intellectual assets, Employment impacts, and Human resources. Relative weaknesses are in Innovators, Finance and support, and Attractive research systems.

Structural differences

Notable differences are a larger share of employment in Agriculture & Mining and in Manufacturing, a smaller share of employment in High and Medium high-tech manufacturing and in Knowledge-intensive services, a larger share of Micro enterprises and SMEs in turnover, a smaller share of Large enterprises in turnover, a larger share of foreign controlled enterprises, a larger share of enterprise births, lower GDP per capita, a higher growth rate of GDP, a lower and negative growth rate of population, and lower population density.

	BG	EU
Structure of the economy		
Composition of employment, average 2011-15		
- Agriculture & Mining (NACE A-B) (%)	7.6	5.1
- Manufacturing (NACE C) (%)	19.9	15.6
of which High and Medium high-tech (%)	18.6	36.4
- Utilities and Construction (NACE D-F) (%)	9.8	8.6
- Services (NACE G-N) (%)	55.0	63.6
of which Knowledge-intensive services (%)	45.1	58.0
- Public administration, etc. (NACE O-U) (%)	7.7	7.1
Business indicators		
Composition of turnover, average 2011-2014		
- Micro enterprises (0-9 employees) (%)	21.4	17.3
- SMEs (10-249 employees) (%)	47.1	38.0
- Large enterprises (250+ employees) (%)	31.6	44.1
Share of foreign controlled enterprises, 2014 (%)	3.85	1.18
Top R&D spending enterprises		
- average number per 10 mln population, 2011-15	none	29.9
- average R&D spending, mln Euros, 2011-15	none	165.8
Enterprise births (10+ empl.) (%), avg 2012-14	2.2	1.5
Buyer sophistication 1-7 (best), 2013-14	2.9	3.6
Ease of starting a business, Doing Business 2017	73.5	76.5
Socio-demographic indicators		
GDP per capita, PPS, avg 2011-13	11,900	25,400
Change in GDP between 2010 and 2015, (%)	8.0	5.4
Population size, avg 2011-15 (millions)	7.3	505.5
Change in population between 2010 and 2015 (%)	-3.0	1.1
Population aged 15-64, avg 2011-2015 (%)	67.2	66.1
Population density, average 2011-15	66.7	116.4
Degree of urbanisation, average 2011-15 (%)	64.3	74.4

Values in green show performance above 120% of EU, values in red show performance below 80% of EU.



Bulgaria	Performance relative to EU 2010 in		Change 2010-2016
	2010	2016	
SUMMARY INNOVATION INDEX	47.4	47.5	0.1
Human resources	33.7	71.8	38.1
New doctorate graduates	30.8	98.4	67.6
Population with tertiary education	61.8	96.7	34.9
Lifelong learning	4.2	10.5	6.3
Attractive research systems	28.5	28.6	0.2
International scientific co-publications	39.1	54.4	15.3
Most cited publications	29.2	27.5	-1.7
Foreign doctorate students	23.6	21.1	-2.5
Innovation-friendly environment	54.6	66.4	11.8
Broadband penetration	88.9	111.1	22.2
Opportunity-driven entrepreneurship	30.4	34.9	4.5
Finance and support	59.4	16.1	-43.3
R&D expenditure in the public sector	32.5	16.5	-16.0
Venture capital expenditures	93.4	15.6	-77.8
Firm investments	66.5	59.0	-7.4
R&D expenditure in the business sector	10.7	57.9	47.2
Non-R&D innovation expenditures	41.3	106.7	-34.5
Enterprises providing ICT training	64.3	21.4	-42.9
Innovators	33.0	11.6	-21.5
SMEs product/process innovations	38.0	9.3	-28.7
SMEs marketing/organizational innovations	21.4	12.4	-9.0
SMEs innovating in-house	40.0	13.0	-27.0
Linkages	30.0	17.7	-12.3
Innovative SMEs collaborating with others	23.1	19.1	-4.0
Public-private co-publications	24.3	6.6	-17.6
Private co-funding of public R&D exp.	40.7	26.1	-14.6
Intellectual assets	50.7	99.2	48.5
PCT patent applications	29.3	41.8	12.6
Trademark applications	106.0	136.4	24.4
Design applications	37.1	153.5	115.5
Employment impacts	87.8	97.9	10.2
Employment in knowledge-intensive activities	35.9	60.3	24.4
Employment fast-growing enterprises	25.3	25.3	-0.2
Sales impacts	45.9	33.5	-12.4
Medium and high tech product exports	19.9	33.6	13.7
Knowledge-intensive services exports	18.6	48.0	29.4
Sales of new-to-market/firm innovations	109.3	16.3	-92.9

Dark green: normalised performance above 120% of EU; light green: normalised performance between 90% and 120% of EU; yellow: normalised performance between 50% and 90% of EU; orange: normalised performance below 50% of EU. Normalised performance uses the data after a possible imputation of missing data and transformation of the data.

Change highlighted in green is positive; change highlighted in light red is negative.