Romania is a **Modest Innovator**. Over time, performance has declined by 14.1% relative to that of the EU in 2010.
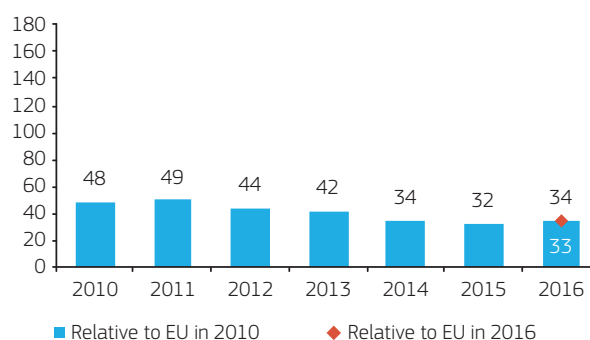
Innovation system

Relative strengths of the innovation system are in Innovation-friendly environment, Sales impacts, and Human resources. Relative weaknesses are in Innovators, Firm investments, and Finance and support.

Structural differences

Notable differences are a larger share of employment in Agriculture & Mining, a lower share of employment in High and Medium high-tech manufacturing, Services and Public administration, a larger share of foreign controlled enterprises, a lower number of Top R&D spending enterprises and a lower average R&D spending of these 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.

	RO	EU
Structure of the economy		
Composition of employment, average 2011-15		
- Agriculture & Mining (NACE A-B) (%)	29.3	5.1
- Manufacturing (NACE C) (%)	18.1	15.6
of which High and Medium high-tech (%)	*27.6*	*36.4*
- Utilities and Construction (NACE D-F) (%)	9.5	8.6
- Services (NACE G-N) (%)	38.1	63.6
of which Knowledge-intensive services (%)	*46.9*	*58.0*
- Public administration, etc. (NACE O-U) (%)	5.0	7.1
Business indicators		
Composition of turnover, average 2011-2014		
- Micro enterprises (0-9 employees) (%)	16.5	17.3
- SMEs (10-249 employees) (%)	41.5	38.0
- Large enterprises (250+ employees) (%)	42.0	44.1
Share of foreign controlled enterprises, 2014 (%)	5.31	1.18
Top R&D spending enterprises		
- average number per 10 mln population, 2011-15	0.3	29.9
- average R&D spending, mln Euros, 2011-15	11.0	165.8
Enterprise births (10+ empl.) (%), avg 2012-14	3.4	1.5
Buyer sophistication 1-7 (best), 2013-14	3.0	3.6
Ease of starting a business, Doing Business 2017	74.3	76.5
Socio-demographic indicators		
GDP per capita, PPS, avg 2011-13	13,500	25,400
Change in GDP between 2010 and 2015, (%)	12.8	5.4
Population size, avg 2011-15 (millions)	20.0	505.5
Change in population between 2010 and 2015 (%)	-2.1	1.1
Population aged 15-64, avg 2011-2015 (%)	67.9	66.1
Population density, average 2011-15	87.9	116.4
Degree of urbanisation, average 2011-15 (%)	54.4	74.4

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

■ Relative to EU in 2010   ◆ Relative to EU in 2016

Romania	Performance relative to EU 2010 in		Change 2010-2016
	2010	2016	
SUMMARY INNOVATION INDEX	47.9	33.8	-14.1
Human resources	42.3	49.8	7.4
New doctorate graduates	100.0	96.4	-3.6
Population with tertiary education	17.1	44.1	27.0
Lifelong learning	2.1	0.0	-2.1
Attractive research systems	23.4	30.0	6.5
International scientific co-publications	23.4	47.6	24.2
Most cited publications	31.1	40.1	9.0
Foreign doctorate students	12.3	9.0	-3.4
Innovation-friendly environment	74.9	89.8	14.9
Broadband penetration	134.5	45.8	22.2
Opportunity-driven entrepreneurship	41.5	51.2	9.7
Finance and support	52.6	18.1	-34.6
R&D expenditure in the public sector	27.1	21.8	-5.3
Venture capital expenditures	84.8	13.3	-71.5
Firm investments	64.4	11.9	-52.5
R&D expenditure in the business sector	13.3	15.9	2.6
Non-R&D innovation expenditures	209.4	21.3	-188.1
Enterprises providing ICT training	0.0	0.0	0.0
Innovators	38.5	0.0	-38.5
SMEs product/process innovations	26.4	0.0	-26.4
SMEs marketing/organizational innovations	50.8	0.0	-50.8
SMEs innovating in-house	38.0	0.0	-38.0
Linkages	52.3	29.4	-22.9
Innovative SMEs collaborating with others	10.7	5.8	-4.9
Public-private co-publications	39.3	15.0	-24.3
Private co-funding of public R&D exp.	97.5	61.1	-36.4
Intellectual assets	15.9	24.9	9.0
PCT patent applications	21.1	26.7	5.6
Trademark applications	16.6	31.3	14.8
Design applications	8.5	17.5	9.0
Employment impacts	21.0	37.0	16.0
Employment in knowledge-intensive activities	3.8	19.2	15.4
Employment fast-growing enterprises	33.6	50.0	16.4
Sales impacts	84.8	62.2	-22.7
Medium and high tech product exports	87.1	93.4	6.4
Knowledge-intensive services exports	56.0	54.7	-1.3
Sales of new-to-market/firm innovations	115.9	33.2	-82.7

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.