



# Smart Specialisation in the Eastern Partnership countries. Opportunities in Azerbaijan for a knowledge-based economic cooperation

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## Reminder: What is Smart Specialisation ?

National or Regional Smart Specialisation Strategies (S3) are integrated, place-based economic transformation agendas which:

- focus the policy support and investments on key national/regional **priorities, challenges** and **needs** for knowledge-based development.
- build on each country/region's **strengths, competitive advantages** and **potential** for excellence.
- support technological as well as practice-based **innovation** and aim to stimulate private sector **investment**.
- get stakeholders fully involved and encourage **innovation** and experimentation.
- are **evidence-based** and include sound monitoring and evaluation systems.

# Smart Specialisation in Eastern Partnership countries

- Joint Communication: Eastern Partnership policy beyond 2020: Reinforcing Resilience – an Eastern Partnership that delivers for all
- Economic and Investment Plan for the Eastern Partnership
- EU Membership applications from Ukraine, Moldova and Georgia
- Integrated into the national policies in Ukraine, Moldova and Georgia
- Ukraine Recovery Plan (Lugano Declaration)



<https://s3platform.jrc.ec.europa.eu/w/smart-specialisation-in-the-eastern-partnership-countries-potential-for-knowledge-based-economic-cooperation>

# Smart Specialisation Framework for EU Enlargement and Neighbourhood Region (S3 Framework)



EaP partner countries are following Smart Specialisation Framework for EU Enlargement and Neighbourhood Region (S3 Framework), developed by JRC in cooperation with partner countries, international experts and policy directorates of European Commission

# Current progress of the Smart Specialisation in the EU Enlargement and Neighbourhood Region



## S3 Framework for EU Enlargement and Neighbourhood Region

updated January 2023

WHERE WE ARE NOW



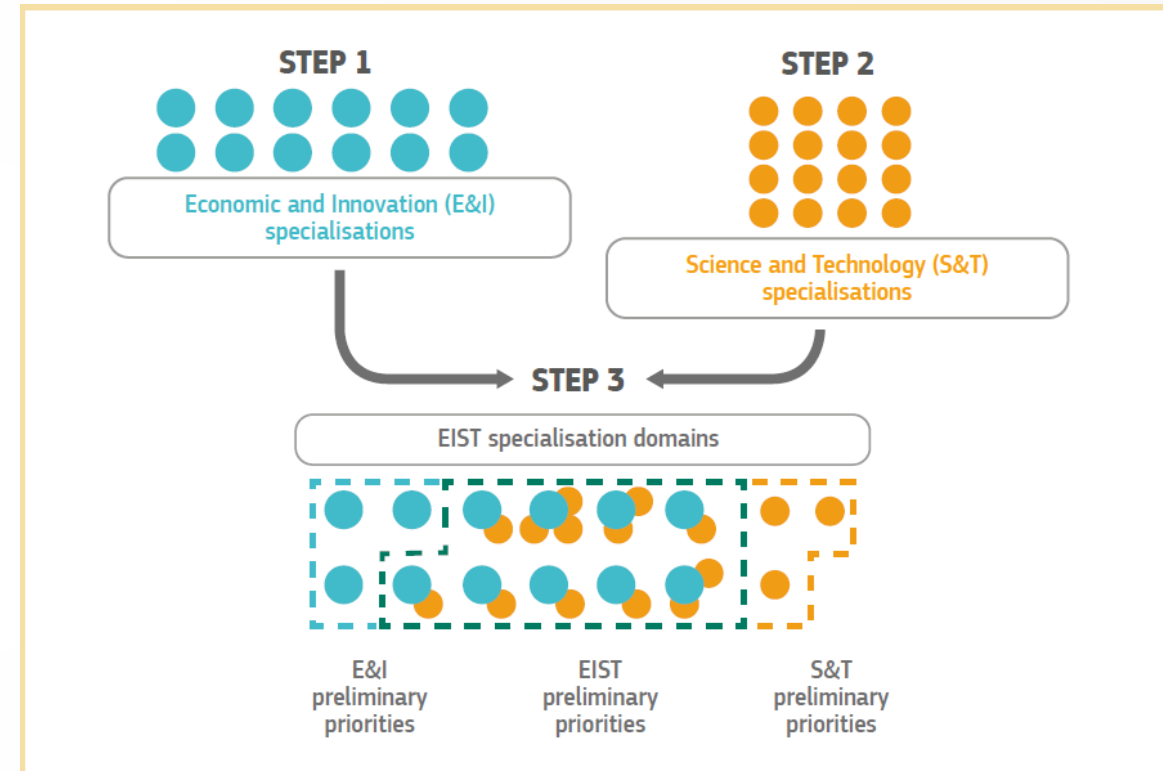
# Data Sources for the Economic, Innovation, Science and Technology Specialisations

## Economic and Innovation potential

- Employment and turnover in NACE subsectors (Orbis and UNIDO)
- Exports of goods and services
- World Bank Enterprise Survey – data on innovation
- WIPO Global Brands Database for Patents & Designs
- Venture Capital and Start-up database
- European Cluster Collaboration Platform

## Scientific and Technological potential

- Scientific publications – SCOPUS
- CORDIS: EU R&I projects (FP7 and H2020)
- DOCDB database of the European Patent Office (text mining)





# Azerbaijan – Main findings of the Economic potential

Table 2.10. Economic mapping results for Manufacturing for Azerbaijan

		Employment	Turnover	Employment & turnover	Employment	Turnover	Employment & turnover
		Current	Current	Current	Emerging	Emerging	Emerging
		6	5	2	6	11	4
101	Processing/preserving of meat		X				
103	Processing/preserving of fruit, vegetables					X	
105	Dairy products				X		
106	Grain mill products, starches and starch products		X		X		
110	Beverages				X	X	X
13	Manufacture of textiles	X					
14	Manufacture of wearing apparel					X	
16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials					X	
160	Wood products, cork, straw, plaiting materials					X	
19	Manufacture of coke and refined petroleum products	X	X	X			
20	Manufacture of chemicals and chemical products	X			X	X	X
22	Manufacture of rubber and plastic products				X	X	X
23	Manufacture of other non-metallic mineral products	X				X	
26	Manufacture of computer, electronic and optical products					X	
28	Manufacture of machinery and equipment n.e.c		X				
30	Manufacture of other transport equipment					X	
310	Furniture	X					
33	Repair and installation of machinery and equipment	X	X	X	X	X	X

Table 2.17. Goods export specialisation for Azerbaijan

SITC	Goods name	Current strength	% share of exports	Emerging strength	% share of exports
		3	88.0%	8	90.8%
0	Food and live animals				
054	Vegetables, fresh, chilled, frozen or simply preserved (including dried leguminous vegetables); roots, tubers and other edible vegetable products, n.e.s., fresh or dried			X	0.7%
057	Fruit and nuts (not including oil nuts), fresh or dried			X	1.3%
1	Beverages and tobacco				
2	Crude materials, inedible, except fuels				
3	Mineral fuels, lubricants and related materials				
333	Petroleum oils and oils obtained from bituminous minerals, crude	X	82.1%	X	82.1%
335	Residual petroleum products, n.e.s., and related materials			X	0.2%
343	Natural gas, whether or not liquefied	X	5.6%	X	5.6%
351	Electric current			X	0.2%
4	Animal and vegetable oils, fats and waxes				
5	Chemicals and related products, n.e.s.				
571	Polymers of ethylene, in primary forms	X	0.4%		
6	Manufactured goods classified chiefly by material				
679	Tubes, pipes and hollow profiles, and tube or pipe fittings, of iron or steel			X	0.2%
684	Aluminium			X	0.5%
7	Machinery and transport equipment				
8	Miscellaneous manufactured articles				
9	Commodities and transactions not classified elsewhere in the SITC				



# Azerbaijan – Main findings of the Innovation potential (WB enterprise survey)

Table 2.29. Specialisation in innovation

Name of industry	Share of product innovators						Share of process innovators						Share of product and/or process innovators					
	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine
Food (10+11)	0.859	0.908	1.470	0.702	0.996	0.906	0.845	0.134	1.567	0.935	1.819	0.699	0.892	0.907	1.284	0.833	1.210	0.874
Tobacco (12)																		
Textiles (13)	1.108		0.334		0.658	1.900	0.346	0.558		1.291	1.805	0.976		0.310		1.042	1.673	
Garments (14)	0.702		0.884	1.270		1.144	1.583	1.338	0.000		1.079	0.692		0.894	1.253		1.160	
Leather (15)	1.253		1.399			0.348	0.000	1.864			1.136	1.062		1.186				0.752
Wood (16)	1.049	0.000	2.152	0.710	1.124	0.965	0.000	0.465	1.176	0.000	3.834	0.526	0.643	0.251	1.321	0.435	2.758	0.592
Paper (17)	1.412		0.465	0.000	2.249	0.874	2.227		2.773	0.000	0.000	0.000	1.335		0.712	0.000	2.126	0.826
Publishing, printing and recorded media (18)	1.070	0.734	1.185	1.633	0.388	0.990	1.343	1.438	1.016	0.469	0.974	0.761	1.060	0.945	1.112	1.533	0.364	0.986
Refined petroleum product (19)																		
Chemicals (20+21)	0.898	0.000	1.213	1.000	1.960	0.928	0.813	0.000	1.844	1.429	0.000	1.914	0.829	0.000	1.120	1.357	1.810	0.884
Plastics & rubber (22)	0.904		1.140	0.367	1.703	0.807	0.534		1.659	0.328	0.564	1.915	0.833		1.148	0.435	1.643	0.942
Non-metallic mineral products (23)	1.043	0.321	1.741	1.308	0.615	0.972	0.820	0.673	0.956	1.650	1.030	0.871	1.031	0.303	1.643	1.420	0.618	0.985
Basic metals (24)	2.541	0.000	0.000	2.195	0.000	1.264	2.155	0.000	0.000	2.081	0.000	1.764	2.484	0.000	0.000	2.280	0.000	1.236
Fabricated metal products (25)	0.695		1.421	1.517	0.672	0.694	0.644		3.118	0.000	0.242	0.996	0.810		1.524	1.388	0.615	0.663
Precision instruments (26)			1.306		1.340	0.355			3.000		0.000	0.000			1.306		1.340	0.355
Electronics (27)	0.506		1.269			1.144	0.413		1.096			1.491	0.553		1.347			1.101
Machinery and equipment (28)	0.841		0.803		1.520	0.835	0.577		0.445		1.992	0.985	0.837		0.799		1.513	0.851
Transport machines (29+30)																		
Furniture (31)	0.992	1.001	1.040	1.420	0.654	0.894	0.496	0.000	0.850	2.473	0.877	1.304	0.960	0.968	1.006	1.428	0.773	0.865
Recycling (33)		1.462	0.410			1.128		2.086	0.668			0.246		1.265	0.760			0.976
Construction (section F)	1.533	0.122	1.020	1.010	1.205	1.109	2.122	0.000	2.305	0.713	0.478	0.382	1.759	0.103	1.211	0.849	1.125	0.954
Services of motor vehicles (45)	0.776	1.372	0.720	0.142	1.548	1.442	0.000	0.587	2.193	0.040	0.000	3.180	0.645	1.292	1.028	0.118	1.287	1.630
Wholesale (46)	0.821	1.326	1.019	1.251	0.999	0.583	0.000	1.505	1.506	1.427	0.918	0.644	0.715	1.374	1.070	1.113	1.056	0.672
Retail (47)	1.183	0.493	0.761	1.597	0.972	0.993	1.344	0.283	1.622	1.351	0.779	0.622	1.146	0.458	0.942	1.429	1.065	0.960
Transport (Section H)	1.104	1.590	0.643	1.285	0.977	0.400	2.359	0.000	1.122	0.851	1.307	0.361	2.107	0.590	0.928	0.980	0.999	0.397
Hotel and restaurants (Section I)	1.288	0.692	1.666	1.639	0.714	0.000	0.347	1.278	1.409	1.944	1.021	0.000	1.149	0.831	1.764	1.394	0.862	0.000
Information and communication (Section J)	0.522	0.868	0.874	1.259	1.482	0.995	0.831	0.000	3.631	0.362	0.000	1.176	0.484	0.804	1.249	1.166	1.374	0.922
<b>Total</b>	<b>1.012</b>	<b>0.649</b>	<b>1.135</b>	<b>1.221</b>	<b>1.046</b>	<b>0.937</b>	<b>0.814</b>	<b>0.567</b>	<b>1.720</b>	<b>1.089</b>	<b>0.951</b>	<b>0.859</b>	<b>0.987</b>	<b>0.669</b>	<b>1.237</b>	<b>1.104</b>	<b>1.096</b>	<b>0.907</b>





# Azerbaijan – Main findings of the Innovation potential (patents + trademarks)

Table 2.30. Number of patents for 2011-2018

	Patent docs	Patent families
Armenia	1 643	1 136
Azerbaijan	1 236	1 137
Georgia	1 833	1 689
Moldova	5 866	5 614
Ukraine	101 863	97 810

Sources: WIPO Global Brand Database.

Table 2.35. Descriptive statistics for trademarks in a number of combined manufacturing industries

	Armenia		Azerbaijan		Belarus		Georgia		Moldova		Ukraine	
	2011-2014	2015-2018	2011-2014	2015-2018	2011-2014	2015-2018	2011-2014	2015-2018	2011-2014	2015-2018	2011-2014	2015-2018
NACE 17, 18 and 19 – Textile, wearing, leather products	6	11	11	4	54	47	207	194	388	459	9 078	8 275
NACE 20 – Wood and cork products	4	1	3	1	4	7	61	55	129	140	2 215	2 039
NACE 21, 22 – Paper products, printing and publishing	4	6	8	3	18	27	187	162	296	254	5 297	4 769
NACE 25 – Rubber and plastic products	0	0	3	0	6	6	47	48	121	82	1 027	915
NACE 27 – Basic metal products	6	0	4	0	8	14	73	76	121	121	1 785	1 649
NACE 30, 31, 32, 33 – Electrical and optical equipment	9	8	7	4	33	69	182	265	263	239	6 317	5 387
NACE 34, 35 – Transport equipment	5	0	3	0	67	27	60	65	95	85	1 725	1 546
NACE 60, 63 – Transport and storage	3	6	19	15	10	11	102	193	306	324	4 041	3 696
NACE 67 – Financial intermediation	3	3	11	0	10	14	241	346	190	257	5 396	4 653
NACE 72, 73 – Computer-related activity, research and development	17	9	10	18	34	49	81	188	252	275	7 658	6 728
Total of above fields	57	44	79	45	244	271	1 241	1 592	2 161	2 236	44 539	39 657
Total number of trademarks*	508	669	289	195	828	881	6 798	10 087	11 407	11 586	200 427	181 139

\* Total number of trademarks includes all NICE classes. In the table only a subset of all NICE classes can be assigned to the NACE industries listed. The total for this subset is given in 'Total of above fields'. The majority of trademarks can thus not be assigned to a NACE industry.

Table 2.31. Industries with innovation potential based on 2011-2018 relative patent performance

Azerbaijan	19 Manufacture of coke and refined petroleum products
	20.1 Manufacture of basic chemicals
	20.4 Manufacture of soap and detergents
	20.5 Manufacture of other chemical products
	42.9 Construction of other civil engineering projects
	43 Specialised construction activities
	62 Computer programming, consultancy and related activities



# Azerbaijan – Main findings of the Innovation potential (start-ups + Venture capital)

**Table 2.38. Crunchbase – key descriptive statistics**

Country	Number of Companies	Per million inhabitants	Per GDP, in current USD bn PPP
Armenia	134	42.76	3.19
Azerbaijan	111	11.76	0.74
Georgia	117	28.51	2.01
Moldova	75	21.09	2.08
Ukraine	4 065	92.34	7.26

**Table 2.40. Largest industry groups – Azerbaijan**

Azerbaijan					
# firms CM	Firms	# employees CM	Employees	# est. revenue CM	Revenue
Software	35	Science and Engineering	7 710	Manufacturing	\$5 530 m
Internet Services	32	Transportation	7 580	Transportation	\$5 506 m
Information Technology	22	Energy	3 085	Natural Resources	\$5 500 m
Financial Services	17	Natural Resources	3 080	Energy	\$5 500 m
Commerce and Shopping	15	Financial Services	2 825	Financial Services	\$401 m
Mobile	14	Lending and Investments	1 900	Lending and Investments	\$330 m
Hardware	13	Hardware	1 820	Payments	\$60 m
Media and Entertainment	11	Professional Services	1 010	Software	\$52 m
Other	10	Mobile	880	Hardware	\$48 m
Lending and Investments	9	Other	875	Mobile	\$48 m

For Azerbaijan, the table shows the raw number of companies, number of employees and estimated revenue featured in the Crunchbase database by Industry Group.

**Table 2.50. Azerbaijan**

	AZERBAIJAN			
	Firm critical mass	Employment critical mass	Firm specialisation	Employment specialisation
Financial Services	✓	✓	✓	✓
Natural Resources		✓	✓	✓
Mobile	✓	✓		
Lending and Investments		✓	✓	✓
Energy		✓	✓	✓

**Table 2.45. Specialised industry groups– Azerbaijan**

Azerbaijan					
# firms SI	Firms	# employees SI	Employees	# est. revenue SI	Revenue
Travel and Tourism	3.93	Agriculture and Farming	7.31	Energy	9.10
Lending and Investments	3.27	Natural Resources	6.33	Transportation	7.22
Messaging and Telecom.	2.93	Transportation	4.32	Natural Resources	4.63
Music and Audio	2.37	Travel and Tourism	3.91	Manufacturing	4.46
Natural Resources	2.34	Science and Engineering	3.05	Travel and Tourism	2.18
Financial Services	2.30	Energy	2.22	Music and Audio	2.04
Internet Services	1.68	Food and Beverage	1.22	Financial Services	1.42
Food and Beverage	1.64	Mobile	1.06	Lending and Investments	1.30
Energy	1.61	Financial Services	0.98	Payments	0.63
Community and Lifestyle	1.48	Lending and Investments	0.97	Events	0.34

For Azerbaijan, the table shows the relative specialisation in terms of number of companies, number of employees and estimated revenue featured in the Crunchbase database by Industry Group.



# Azerbaijan – Main findings of the Innovation potential (clusters)

Table 2.54. Recommended industry groups for start-ups and venture capital-backed companies

	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine
Software	✓		✓	✓	✓	✓
Mobile	✓	✓	✓			
Financial Services		✓		✓	✓	
Information Technology	✓				✓	
Lending and Investments		✓		✓	✓	
Travel and Tourism	✓			✓		
Gaming	✓		✓			
Internet Services	✓			✓		
Natural Resources		✓				
Payments				✓		
Sustainability					✓	
Professional Services						✓
Hardware						✓
Sales and Marketing						✓
Food and Beverage					✓	
Science and Engineering			✓			
Energy		✓				
Data and Analytics			✓			
Commerce and Shopping						✓
Apps	✓					

The table shows the selected Industry Groups supporting the definition of innovation potential domains, for each EaP country.

Table 2.57. Number of identified cluster organisations by country and sector

	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine	Total
Green energy and environmental services	1				1	3	5
Petrochemicals		1					1
Education and knowledge transfer	1			1	2	3	7
Food and agriculture	1					4	5
Information and communication technologies	3		2	1		10	16
Medicine and health			1	1		1	3
Biotechnology			1		1	1	3
Pharmaceuticals			1			1	2
Industrial manufacturing and processes*				2	1	6	9
Tourism				1			1
High technology					1		1

\* Includes clusters in diverse industries such as textiles, aerospace, electronics, automation, furniture and printing.



# Azerbaijan – Summary of the Economic and Innovation mapping results

Table 5.2. Summary table of mapping results for Azerbaijan

Economic – All industries				Goods exports				Innovation – Enterprise Survey			
NACE		C	E	SITC		C	E	NACE		C	E
	Results unavailable			5	Vegetables and fruit		X	33	Recycling		
				33	Petroleum, petroleum products and related materials	X	X				
				34	Gas, natural and manufactured	X	X	45	Services of motor vehicles		
				35	Electric current		X	46	Wholesale		
Economic – Manufacturing				Services exports				Innovation – Patents			
NACE		C	E	EBOPS		C	E	NACE		C	E
11	Beverages		X	1	Transportation		X	19	Manufacture of coke and refined petroleum products		
19	Manufacture of coke and refined petroleum products	X		2.1	Business travel	X		20.1	Manufacture of basic chemicals		
20	Manufacture of chemicals and chemical products		X	2.2	Personal travel		X	20.4	Manufacture of soap and detergents		
22	Manufacture of rubber and plastic products		X	5	Insurance services		X	20.5	Manufacture of other chemical products		
33	Repair and installation of machinery and equipment	X	X	9	Other business services	X		42.9	Construction of other civil engineering projects		
								43	Specialised construction activities		
								62	Computer programming, consultancy and related activities		
								Innovation – VC & start-ups			
								26, 61	Mobile		
								62, 64	Financial services		
								64	Lending and investments		
								6, 35	Natural resources		
								35	Energy		
								Clusters			
									Petrochemicals		



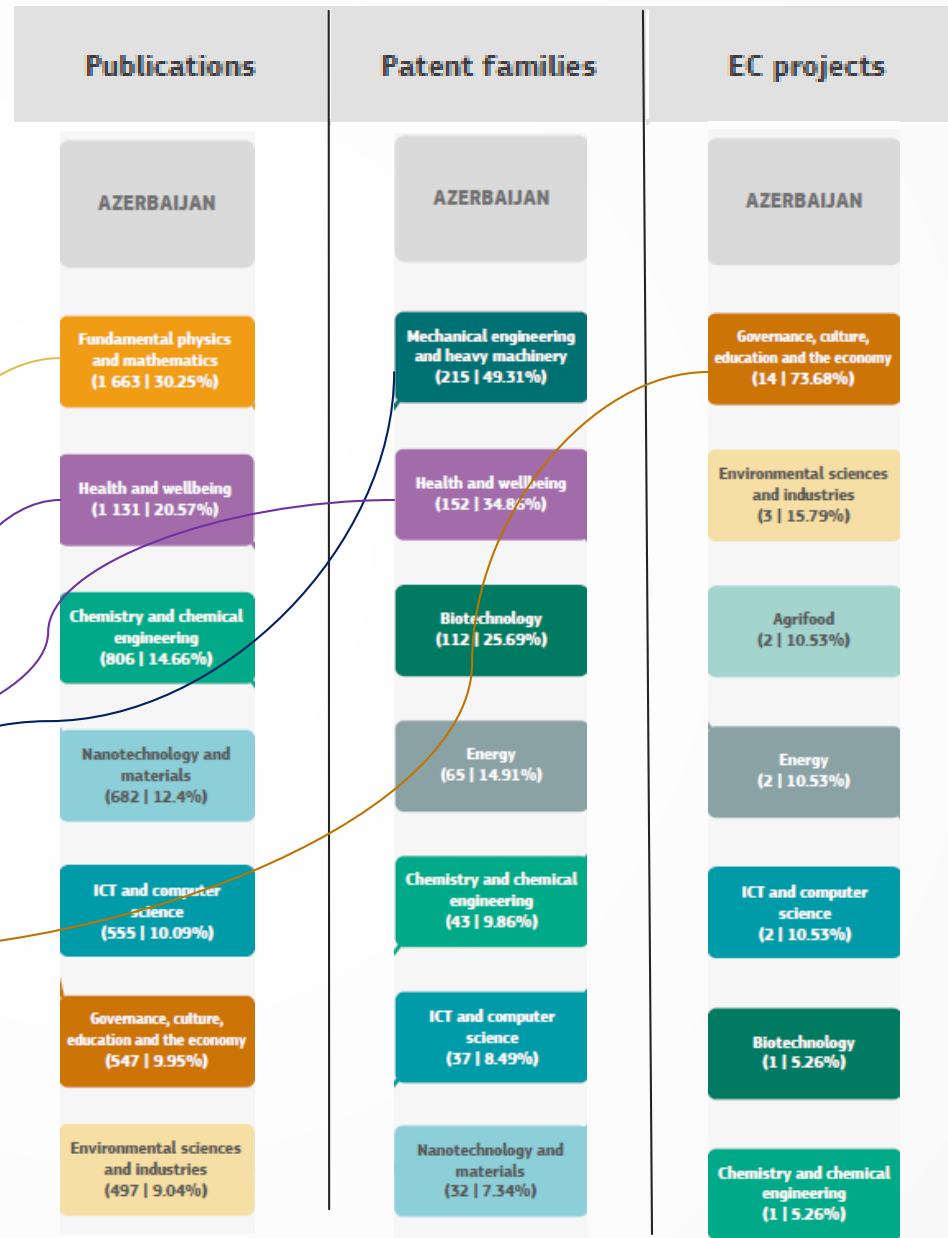
# Azerbaijan – Main findings of the Scientific and Technological potential

Table 3.2. Distribution of records per type and per country

	Publications	Patent families	EC projects	Total
Armenia	9 103	380	43	9 526
<b>Azerbaijan</b>	<b>5 840</b>	<b>471</b>	<b>19</b>	<b>6 330</b>
Belarus	15 490	2 251	67	17 808
Georgia	8 199	933	58	9 190
Moldova	3 855	1 673	77	5 605
Ukraine	94 419	56 447	205	151 071
EaP total	131 179	61 997	324	193 500

Table 3.11. Number of records per S&T specialisation domain in Azerbaijan

	Publications (critical mass   CAGR)	Patents	EC projects	Total
Fundamental physics and mathematics	1 663   8.7%	5	1	1 669
Health and wellbeing	1 131   15.5%	152	1	1 284
Chemistry and chemical engineering	806   5.7%	43	1	850
Nanotechnology and materials	682   18.9%	32	1	715
ICT and computer science	555   6.5%	37	2	594
Governance, culture, education and the economy	547   21.2%	1	14	562
Environmental sciences and industries	497   7.7%	28	3	528
Mechanical engineering and heavy machinery	200   15.1%	215	0	415
Energy	243   13.7%	65	2	310
Biotechnology	153   8.2%	112	1	266
Agrifood	196   3.3%	3	2	201
Optics and photonics	148   10.4%	6	0	154





# Azerbaijan – Main actors with Scientific and Technological potential

Figure 3.41. Top actors in Azerbaijan by number of records (all types), across all domains

	Fundamental physics and mathematics	Chemistry and chemical engineering	Health and wellbeing	Nanotechnology and materials	ICT and computer science	Environmental sciences and industries	Governance, culture, education and the economy	Energy	Mechanical engineering and heavy machinery	Agrifood	Optics and photonics	Biotechnology
<b>Baku State University</b>	546	381	73	308	75	105	86	27	28	44	86	33
<b>Azerbaijan National Academy of Sciences</b>	742	196	64	61	162	81	75	92	68	55	7	27
<b>Azerbaijan State Oil and Industry University</b>	256	80	20	75	74	84	34	41	14	10	16	9
<b>Azerbaijan Medical University</b>	8	28	481	20	13	15	15	3	3	46	5	51
<b>Azerbaijan Technical University</b>	83	48	1	69	50	4	23	9	29	2	10	2
<b>State Oil Company of the Azerbaijan Republic</b>	48	23	1	13	32	93	13	20	20	1	0	1
<b>Azerbaijan State University of Economics</b>	32	11	13	31	18	4	38	12	10	2	5	4
<b>National Nuclear Research Center</b>	109	10	1	34	1	7	0	4	1	2	2	1
<b>National Aviation Academy of Azerbaijan</b>	12	6	4	37	19	16	3	1	7	0	18	0
<b>Azerbaijan State Advanced Training Institute for Doctors named after A. Aliyev</b>	1	1	77	2	2	1	1	0	0	0	0	0

Table 3.21. Top public actors in Azerbaijan by number of records, across all domains

AZERBAIJAN Top 10 actors classified as 'Public sector (excluding higher education and research institutions)'		
Name	No of records	Main S&T domains
State Oil Company of the Azerbaijan Republic	209	Environmental sciences and industries; Fundamental physics and mathematics; ICT and computer science
Ministry of Health	38	Health and wellbeing; Agrifood; Biotechnology
National Centre of Ophthalmology	35	Health and wellbeing; Environmental sciences and industries; Governance, culture, education and the economy
Azerbaijan Scientific Research and Design-Prospecting Power Engineering Institute	27	Energy; ICT and computer science; Fundamental physics and mathematics
Azerbaijan National Aerospace Agency	22	Environmental sciences and industries; Nanotechnology and materials; ICT and computer science
Scientific Center of Surgery	21	Health and wellbeing; ICT and computer science; Agrifood
Central Hospital of Oil Workers	19	Health and wellbeing; Governance, culture, education and the economy; Chemistry and chemical engineering
Ministry of Agriculture	13	Agrifood; Health and wellbeing; Fundamental physics and mathematics
Republican Anti-Plague Station	13	Health and wellbeing; Agrifood; Biotechnology
Central Customs Hospital	11	Health and wellbeing; Agrifood; Biotechnology

Table 3.22. Top private actors in Azerbaijan by number of records, across all domains

AZERBAIJAN Top actors classified as 'Private company, for-profit'		
Name	No of records	Main S&T domains
Kiber Ltd. Company	6	Fundamental physics and mathematics; Environmental sciences and industries; ICT and computer science
Azerbaijan International Mining Company	3	Environmental sciences and industries; Governance, culture, education and the economy
Signature Science, LLC	3	Health and wellbeing
MALAXIT CO	3	Nanotechnology and materials
Anglo Asian Mining PLC	2	Chemistry and chemical engineering; Agrifood; Biotechnology
Bahar Energy Operating Company	2	Chemistry and chemical engineering; Environmental sciences and industries
Baku Steel Company	2	Chemistry and chemical engineering; Energy; Environmental sciences and industries
R.I.T.A. LLC	2	Governance, culture, education and the economy; ICT and computer science
Milotek Pty LTD	1	Mechanical engineering and heavy machinery



# Azerbaijan – Summary of the strengths of the Scientific and Technological potential














**Table V. Selected S&T specialisation domains in Azerbaijan**

AZERBAIJAN	Critical mass		Specialisation		Excellence		Summary	
	S&T domain	Pubs.	Pat.	Pubs.	Pat.	NCI*	EC projects*	Total
Agrifood						✓	✓	2
Biotechnology			✓		✓			2
Chemistry and chemical engineering	✓		✓	✓		✓		4
Energy			✓	✓	✓		✓	4
Environmental sciences and industries							✓	1
Fundamental physics and mathematics	✓					✓		2
Governance, culture, education and the economy	✓					✓	✓	3
Health and wellbeing	✓		✓	✓	✓			4
ICT and computer science				✓	✓			3
Mechanical engineering and heavy machinery			✓	✓	✓	✓		4
Nanotechnology and materials	✓							1
Optics and photonics								0

\*NCI = Normalised citation impact      \*EC projects = EU-funded R&I projects

# Comparative Scientific and Technological specialisation domains in the Eastern Partnership Countries

Figure 11b. The most relevant S&T specialisation domains by EaP countries

Most relevant S&T domains	Countries with high specialisation in the domain
Agrifood	
Biotechnology	
Chemistry and chemical engineering	
Electric and electronic technologies	
Energy	
Environmental sciences and industries	
Fundamental physics and mathematics	
Health and wellbeing	
ICT and computer science	
Mechanical engineering and heavy machinery	
Nanotechnology and materials	
Optics and photonics	
Transportation	





# Azerbaijan – Combined Economic, Innovation, Science and Technology potentials

## Azerbaijan – Summary of the Economic and Innovation mapping results

Table S.2. Summary table of mapping results for Azerbaijan

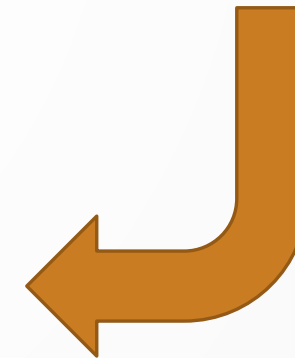
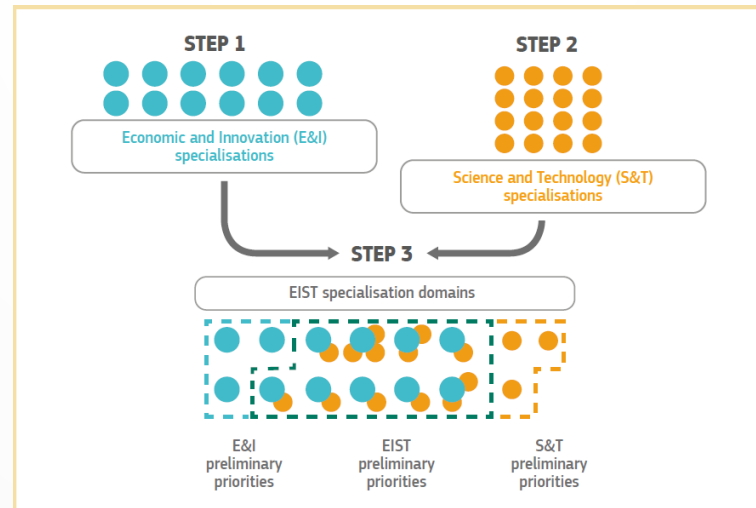
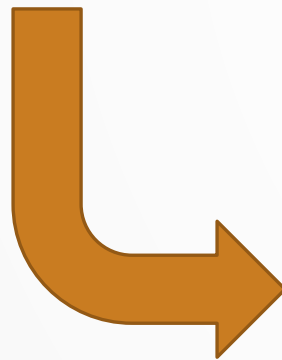
NACE	Economic – All industries	C	E	SITC	Goods exports	C	E	NACE	Innovation – Enterprise Survey
	Results unavailable			5	Vegetables and fruit		X	33	Recycling
				33	Petroleum, petroleum products and related materials	X	X	45	Services of motor vehicles
NACE	Economic – Manufacturing	C	E	34	Gas, natural and manufactured	X	X	46	Wholesale
11	Beverages		X	35	Electric current		X		
19	Manufacture of coke and refined petroleum products	X		51	Organic chemicals		X	NACE	Innovation – Patents
20	Manufacture of chemicals and chemical products		X	65	Textile yarn, fabrics, made-up articles, and related products		X	19	Manufacture of coke and refined petroleum products
22	Manufacture of rubber and plastic products		X	67	Iron and steel		X	20.1	Manufacture of basic chemicals
33	Repair and installation of machinery and equipment	X	X	68	Non-ferrous metals		X	20.4	Manufacture of soap and detergents
								20.5	Manufacture of other chemical products
								42.9	Construction of other civil engineering projects
								43	Specialised construction activities
								62	Computer programming, consultancy and related activities
								NACE	Innovation – VC & start-ups
								26, 61	Mobile
								62, 64	Financial services
								64	Lending and investments
								6, 35	Natural resources
								35	Energy
									Clusters
									Petrochemicals

## Azerbaijan – Summary of the strengths of the Scientific and Technological potential

Table V. Selected S&T specialisation domains in Azerbaijan

AZERBAIJAN	Critical mass		Specialisation		Excellence		Summary
S&T domain	Pubs.	Pat.	Pubs.	Pat.	NCI*	EC projects*	Total
Agrifood					✓	✓	2
Biotechnology		✓		✓			2
Chemistry and chemical engineering	✓	✓	✓		✓		4
Energy		✓	✓	✓		✓	4
Environmental sciences and industries						✓	1
Fundamental physics and mathematics	✓				✓		2
Governance, culture, education and the economy	✓				✓	✓	3
Health and wellbeing	✓	✓	✓	✓			4
ICT and computer science			✓	✓			3
Mechanical engineering and heavy machinery		✓	✓	✓	✓		4
Nanotechnology and materials	✓						1
Optics and photonics							0

\*NCI = Normalised citation impact      \*EC projects = EU-funded R&I projects

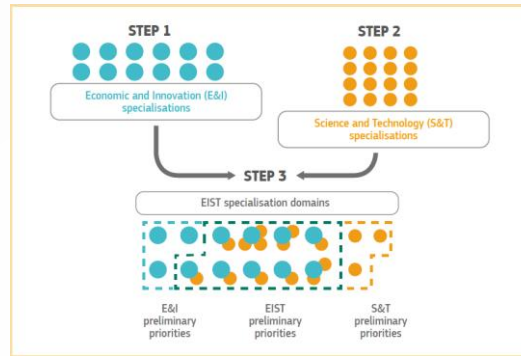




# Azerbaijan – Combined Economic, Innovation, Science and Technology potentials

Azerbaijan – Summary of the Economic and Innovation mapping results

ISIC	ISIC description	E	I	S	T
10	Manufacture of food products				
11	Manufacture of beverages				
12	Manufacture of tobacco products				
13	Manufacture of textiles				
14	Manufacture of leather and leather products				
15	Manufacture of wood and wood products				
16	Manufacture of rubber, plastic and other non-metallic mineral products				
17	Manufacture of metal products				
18	Manufacture of machinery and equipment				
19	Manufacture of electrical and electronic equipment				
20	Manufacture of chemicals and chemical products				
21	Manufacture of non-metallic mineral products				
22	Manufacture of metal products				
23	Manufacture of machinery and equipment				
24	Manufacture of electrical and electronic equipment				
25	Manufacture of transport equipment				
26	Manufacture of other metal products				
27	Manufacture of machinery and equipment				
28	Manufacture of electrical and electronic equipment				
29	Manufacture of transport equipment				
30	Manufacture of other metal products				
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33	Manufacture of transport equipment				
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35	Manufacture of machinery and equipment				
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37	Manufacture of transport equipment				
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93	Manufacture of transport equipment				
94	Manufacture of other metal products				
95	Manufacture of machinery and equipment				
96	Manufacture of electrical and electronic equipment				
97	Manufacture of transport equipment				
98	Manufacture of other metal products				
99	Manufacture of machinery and equipment				
100	Manufacture of electrical and electronic equipment				



Azerbaijan – Summary of the strengths of the Scientific and Technological potential

S&T domain	Critical mass		Specialisation		Excellence		EC projects*	Summary
	Publ.	Pat.	Publ.	Pat.	Publ.	Pat.		
AgriFood							✓	2
Biotechnology			✓		✓			2
Chemistry and chemical engineering	✓		✓		✓			4
Energy			✓		✓		✓	4
Environmental sciences and industries								1
Fundamental physics and mathematics	✓						✓	2
Governance, culture, education and the sciences							✓	3
Health and wellbeing	✓	✓	✓	✓	✓			4
ICT and computer science			✓		✓			3
Mechanical engineering and heavy machinery			✓		✓			4
Nanotechnology and materials	✓							1
Optics and photonics								0

Table 4.3. Combined EIST specialisation domains in Azerbaijan

AZERBAIJAN		
Concordance between E&I analysis and S&T analysis		
Economic cluster	E&I domains (NACE sectors)	S&T domains
<b>Oil and Gas Production and Transportation</b>	19 Manufacture of coke and refined petroleum products	<ul style="list-style-type: none"> <li>• Chemistry and chemical engineering</li> <li>• Energy</li> <li>• Nanotechnology and materials</li> </ul>
<b>Chemical Products</b>	20 Manufacture of chemicals and chemical products	<ul style="list-style-type: none"> <li>• Chemistry and chemical engineering</li> <li>• Nanotechnology and materials</li> <li>• Agrifood</li> <li>• Biotechnology</li> </ul>
<b>Repair and Installation of Machinery and Equipment</b>	33 Repair and installation of machinery and equipment	
<b>Computer Programming and Financial Services</b>	62 Computer programming, consultancy and related activities 64 Financial service activities, except insurance and pension funding	



# Azerbaijan – Opportunities for cooperation in the EaP countries.

SMART SPECIALISATION IN

**Eastern  
Partnership**

Table 4.7. Pairs of economic clusters and S&T domains that can be identified in at least two countries

Economic cluster	S&T domains	EaP countries						Coop. potential
		AM	AZ	BY	GE	MD	UA	
Food Processing and Manufacturing	Agrifood	✓			✓	✓	✓	4
Chemical Products	Biotechnology		✓			✓		2
	Chemistry and chemical engineering		✓			✓		2
	Nanotechnology and materials		✓			✓		2
Metalworking Technology	Nanotechnology and materials				✓		✓	2
Information Technology and Analytical Instruments	Electric and electronic technologies	✓		✓			✓	3
	ICT and computer science			✓			✓	2
	Optics and photonics			✓			✓	2
Communications Equipment and Services	ICT and computer science	✓				✓		2

# JRC support to EU Enlargement and Neighbourhood Region



Capacity building

Targeted expert support

Methodologies and guidance

Knowledge-based cooperation



# Knowledge Hub for EU Enlargement and Neighbourhood Region

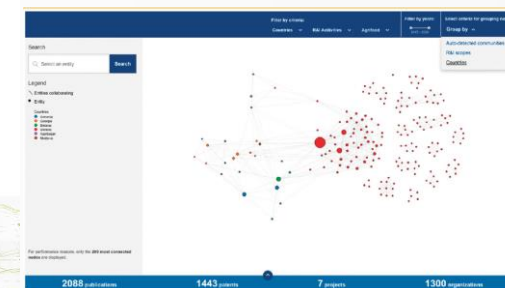
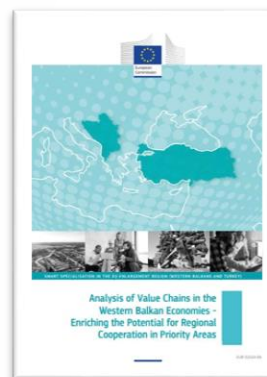
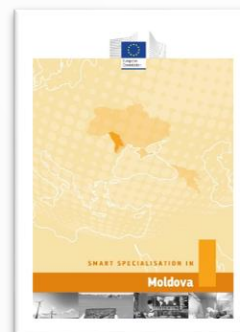
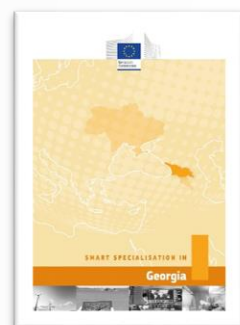
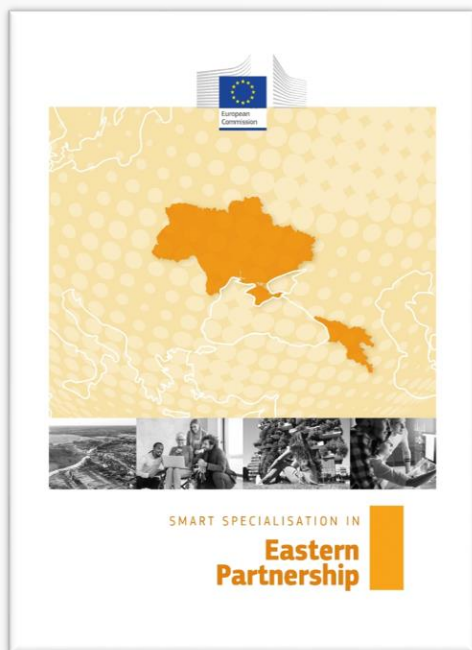
Region-wide analyses

Reports per economy

Guidebooks

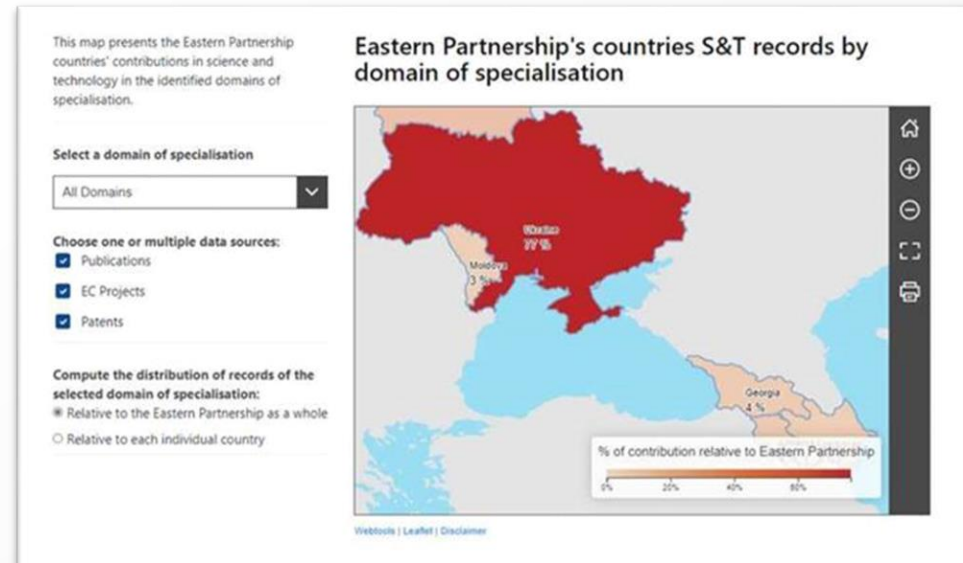
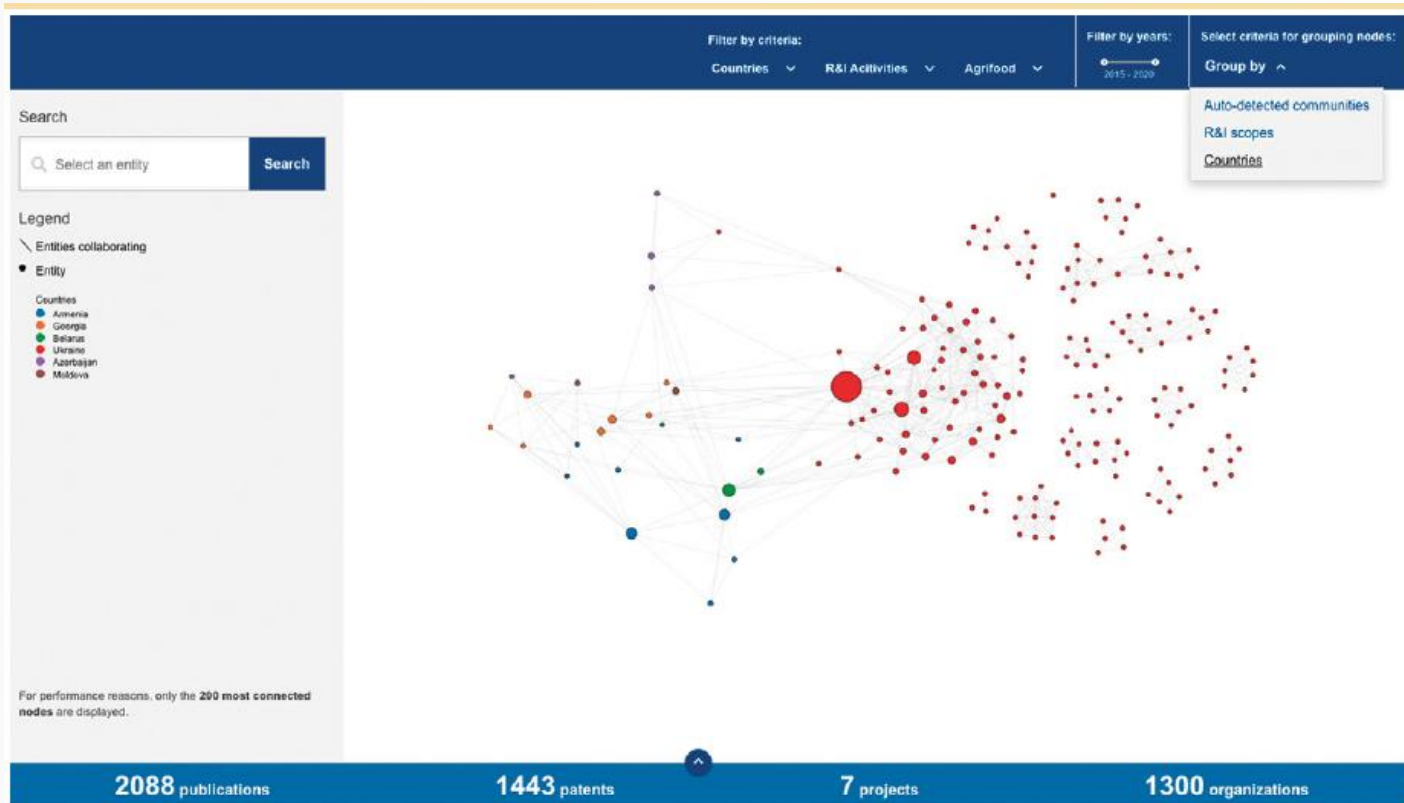
Massive Online Open Course

IT tool: STI cooperation network



# Knowledge Hub for EU Enlargement and Neighbourhood Region

IT tool: STI cooperation network



# Key results of Economic, Innovation, Scientific and Technological potential in the EaP countries

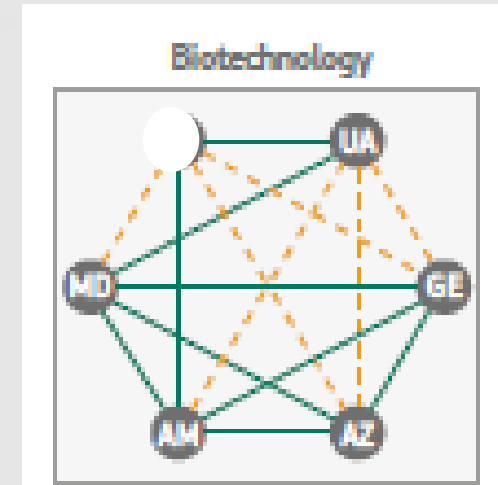
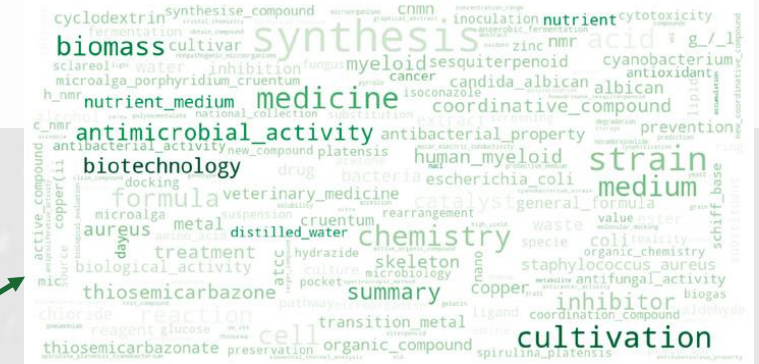
SMART SPECIALISATION IN

**Eastern Partnership**

## MOLDOVA

### Concordance between E&I analysis and S&T analysis

Economic cluster	E&I domains (NACE sectors)	S&T domains
<b>Food Processing and Manufacturing</b>	10 Manufacture of food products 11 Manufacture of beverages	• Agrifood
<b>Leather, Apparel &amp; Footwear</b>	13 Manufacture of textiles 14 Manufacture of wearing apparel 15 Manufacture of leather and related products	
<b>Wood Products</b>	16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	• Chemistry and chemical engineering
<b>Chemical Products</b>	20 Manufacture of chemicals and chemical products	• Biotechnology • Chemistry and chemical engineering • Nanotechnology and materials
<b>Communications Equipment and Services</b>	61 Telecommunications	• ICT and computer science
<b>Computer Programming, Information Services and Financial Services</b>	62 Computer programming, consultancy and related activities 63 Information service activities 64 Financial service activities, except insurance and pension funding	



# JRC, Smart Specialisation and EaP

## ... a long way ahead

- Continue the methodological support to EaP countries
- New perspectives for newer EU candidate countries
- Ukraine Recovery Plan (Lugano Declaration) – S3 as pillar for recovery
- Implementation of S3 and integration into National policies
- Engage with more partner countries



Thank you for your attention!

<https://s3platform.jrc.ec.europa.eu/neighbourhood>