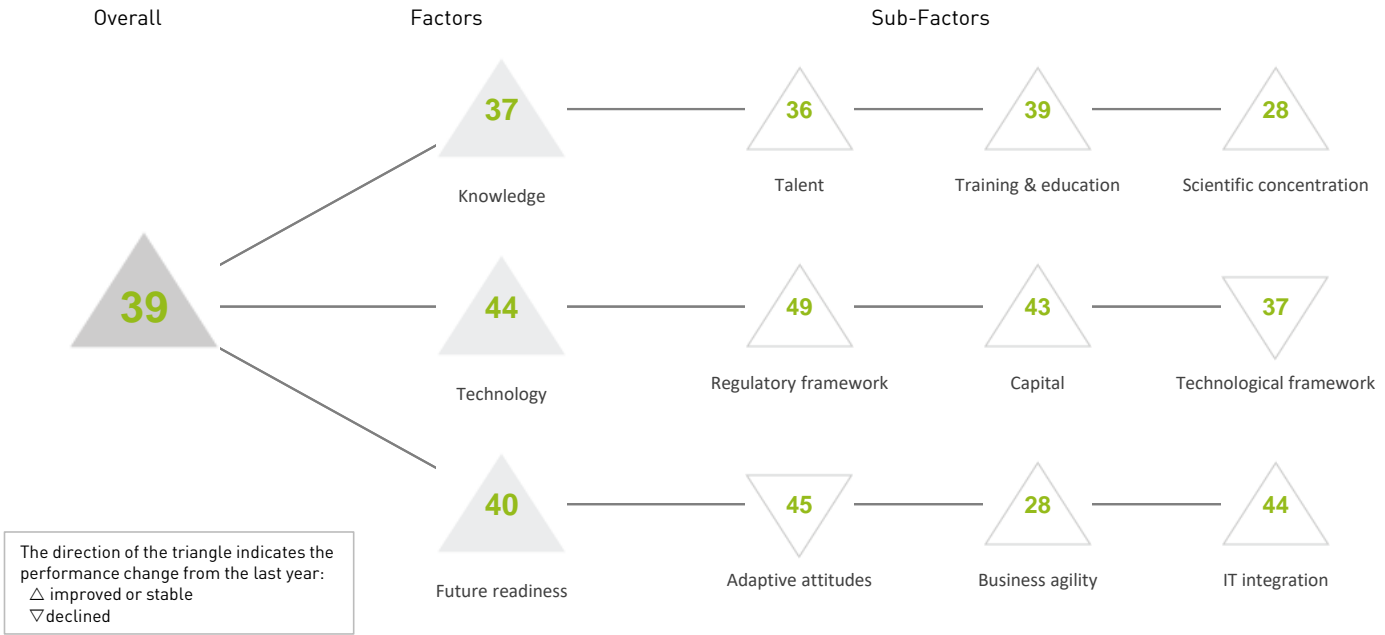


POLAND

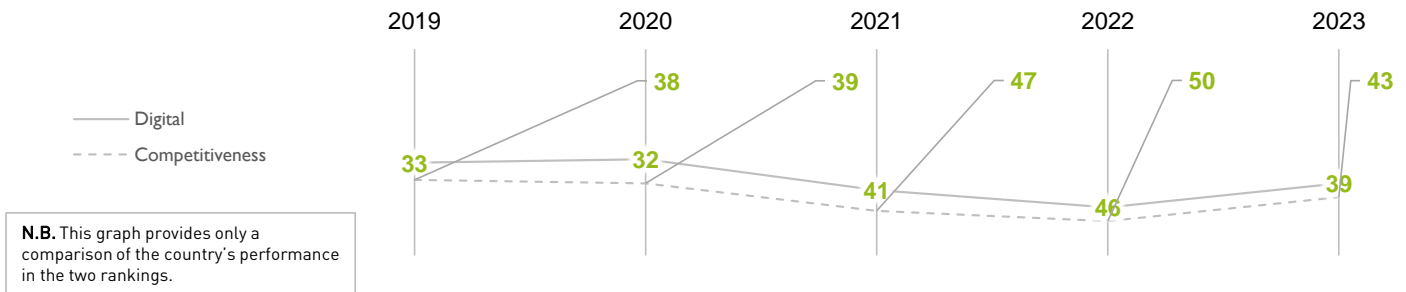
OVERALL PERFORMANCE (64 countries)



OVERALL & FACTORS - 5 years

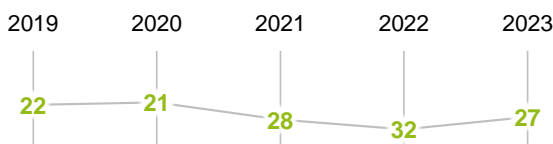
	2019	2020	2021	2022	2023
OVERALL	33	32	41	46	39
Knowledge	33	30	38	42	37
Technology	37	37	41	46	44
Future readiness	33	35	39	43	40

COMPETITIVENESS & DIGITAL RANKINGS

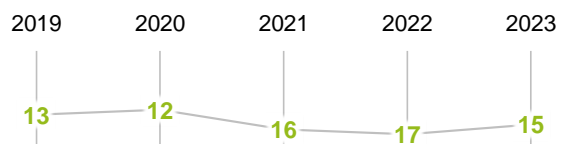


PEER GROUPS RANKINGS

EUROPE - MIDDLE EAST - AFRICA (41 countries)



POPULATIONS > 20 MILLION (27 countries)



POLAND

► Overall Top Strengths

▷ Overall Top Weaknesses

KNOWLEDGE

Sub-Factors	2019	2020	2021	2022	2023
Talent	28	29	41	48	36
Training & education	35	32	44	42	39
Scientific concentration	31	28	28	30	28

Talent	Rank	Training & education	Rank	Scientific concentration	Rank
► Educational assessment PISA - Math	09	Employee training	46	Total expenditure on R&D (%)	30
International experience	36	Total public expenditure on education	33	Total R&D personnel per capita	34
Foreign highly skilled personnel	50	Higher education achievement	38	Female researchers	32
Management of cities	35	Pupil-teacher ratio (tertiary education)	29	R&D productivity by publication	19
Digital/Technological skills	41	Graduates in Sciences	48	Scientific and technical employment	35
Net flow of international students	32	Women with degrees	32	High-tech patent grants	42
				► Robots in Education and R&D	14

TECHNOLOGY

Sub-Factors	2019	2020	2021	2022	2023
Regulatory framework	45	46	53	57	49
Capital	38	36	47	49	43
Technological framework	30	23	31	33	37

Regulatory framework	Rank	Capital	Rank	Technological framework	Rank
▷ Starting a business	54	IT & media stock market capitalization	36	▷ Communications technology	51
Enforcing contracts	38	Funding for technological development	46	Mobile broadband subscribers	38
Immigration laws	47	Banking and financial services	48	► Wireless broadband	04
Development & application of tech.	51	Country credit rating	37	Internet users	46
Scientific research legislation	41	Venture capital	32	Internet bandwidth speed	31
▷ Intellectual property rights	54	Investment in Telecommunications	32	High-tech exports (%)	42

FUTURE READINESS

Sub-Factors	2019	2020	2021	2022	2023
Adaptive attitudes	37	29	28	37	45
Business agility	28	33	44	47	28
IT integration	36	38	45	51	44

Adaptive attitudes	Rank	Business agility	Rank	IT integration	Rank
E-Participation	44	► Opportunities and threats	15	E-Government	32
Internet retailing	29	World robots distribution	17	Public-private partnerships	50
► Tablet possession	10	Agility of companies	22	Cyber security	46
▷ Smartphone possession	57	Use of big data and analytics	27	Software piracy	36
▷ Attitudes toward globalization	57	Knowledge transfer	38	Government cyber security capacity	50
		Entrepreneurial fear of failure	21	Privacy protection by law content	41