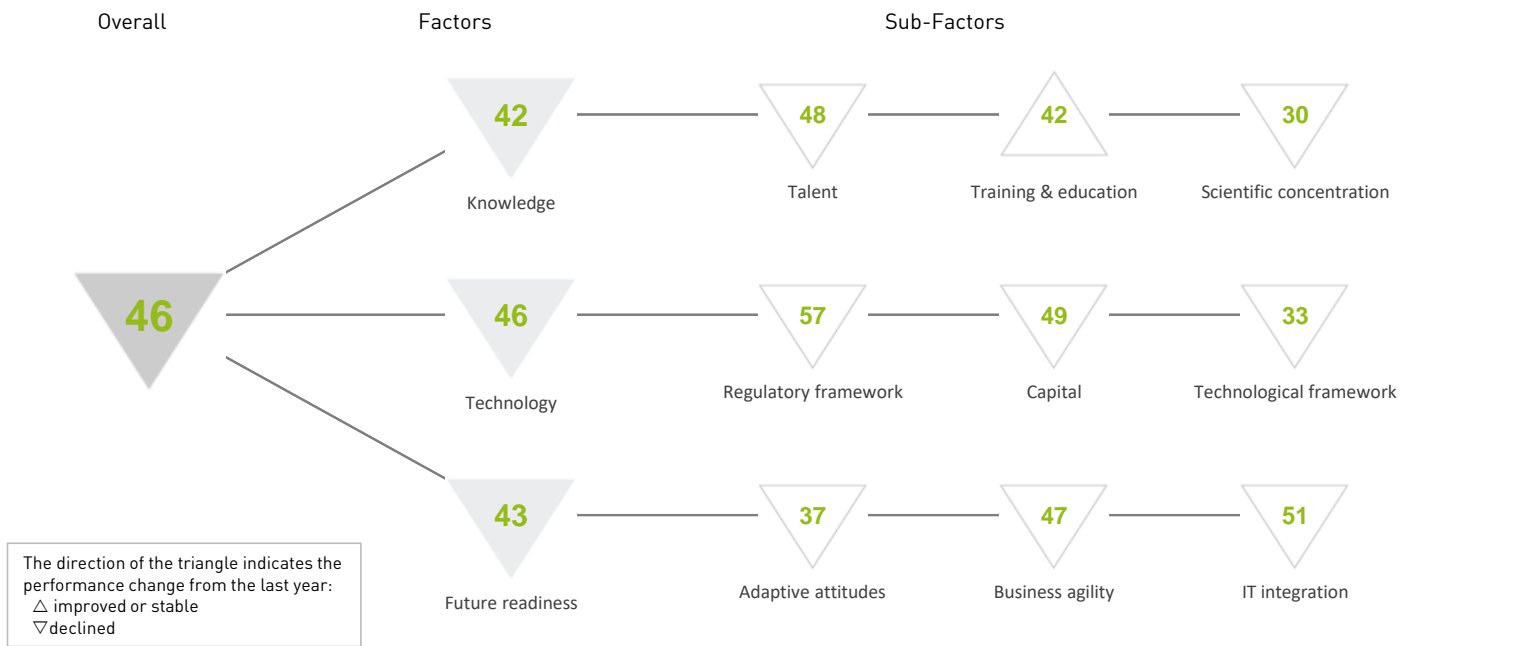


# POLAND

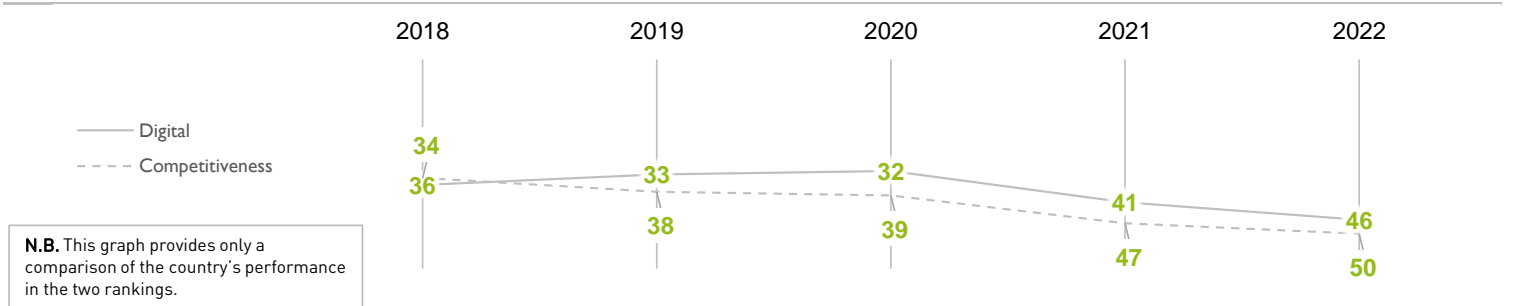
## OVERALL PERFORMANCE (63 countries)



## OVERALL & FACTORS - 5 years

	2018	2019	2020	2021	2022
OVERALL	36	33	32	41	46
Knowledge	33	33	30	38	42
Technology	37	37	37	41	46
Future readiness	37	33	35	39	43

## COMPETITIVENESS & DIGITAL RANKINGS



## PEER GROUPS RANKINGS

### EUROPE - MIDDLE EAST - AFRICA (40 countries)



### POPULATIONS > 20 MILLION (27 countries)



## POLAND

▶ Overall Top Strengths

▷ Overall Top Weaknesses

## KNOWLEDGE

Sub-Factors	2018	2019	2020	2021	2022
Talent	30	28	29	41	48
Training & education	35	35	32	44	42
Scientific concentration	38	31	28	28	30

Talent	Rank	Training & education	Rank	Scientific concentration	Rank
▶ Educational assessment PISA - Math	09	▷ Employee training	60	Total expenditure on R&D (%)	32
International experience	54	Total public expenditure on education	26	Total R&D personnel per capita	31
Foreign highly-skilled personnel	53	Higher education achievement	35	Female researchers	28
Management of cities	47	Pupil-teacher ratio (tertiary education)	27	R&D productivity by publication	18
▷ Digital/Technological skills	61	Graduates in Sciences	44	Scientific and technical employment	36
Net flow of international students	32	Women with degrees	33	High-tech patent grants	42
				▶ Robots in Education and R&D	14

## TECHNOLOGY

Sub-Factors	2018	2019	2020	2021	2022
Regulatory framework	46	45	46	53	57
Capital	32	38	36	47	49
Technological framework	37	30	23	31	33

Regulatory framework	Rank	Capital	Rank	Technological framework	Rank
Starting a business	53	IT & media stock market capitalization	34	Communications technology	54
Enforcing contracts	38	Funding for technological development	54	Mobile Broadband subscribers	27
▷ Immigration laws	59	Banking and financial services	55	▶ Wireless broadband	03
▷ Development & application of tech.	60	Country credit rating	36	Internet users	45
Scientific research legislation	55	Venture capital	48	Internet bandwidth speed	23
Intellectual property rights	52	Investment in Telecommunications	39	High-tech exports (%)	45

## FUTURE READINESS

Sub-Factors	2018	2019	2020	2021	2022
Adaptive attitudes	33	37	29	28	37
Business agility	40	28	33	44	47
IT integration	40	36	38	45	51

Adaptive attitudes	Rank	Business agility	Rank	IT integration	Rank
▶ E-Participation	09	Opportunities and threats	43	E-Government	23
Internet retailing	27	World robots distribution	17	▷ Public-private partnerships	61
▶ Tablet possession	13	Agility of companies	36	Cyber security	55
Smartphone possession	56	Use of big data and analytics	50	Software piracy	36
Attitudes toward globalization	58	Knowledge transfer	55	Government cyber security capacity	49
		Entrepreneurial fear of failure	21	Privacy protection by law content	41