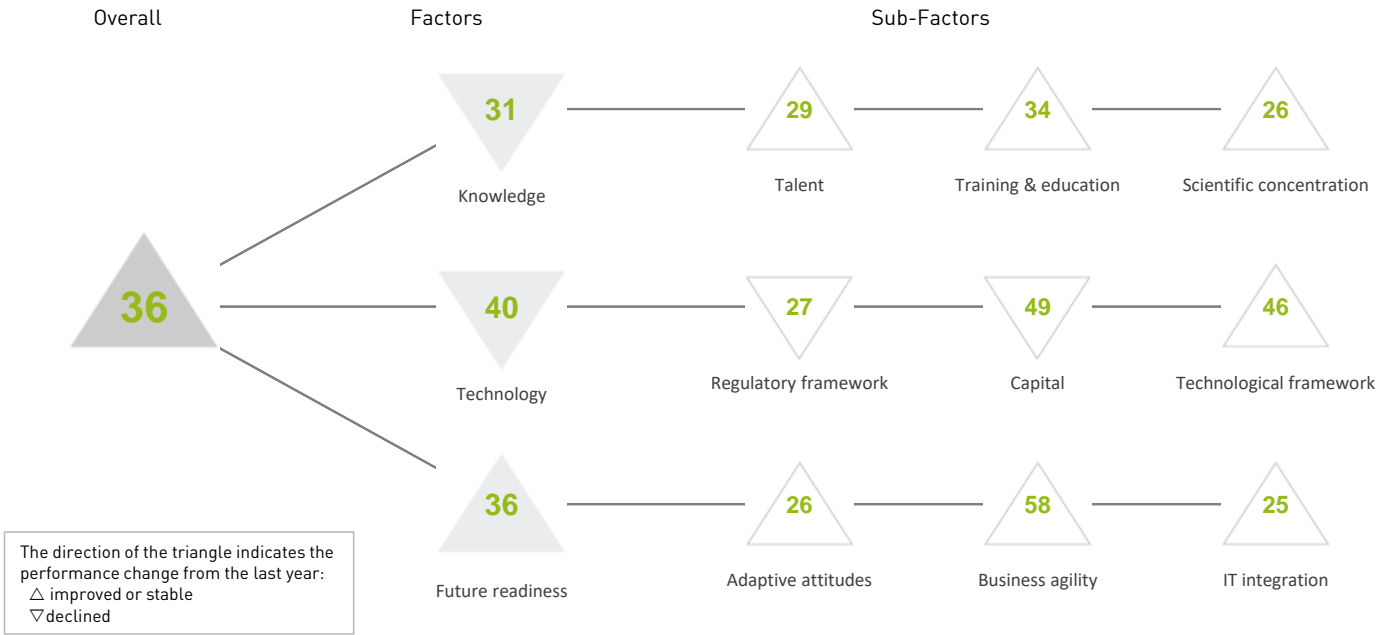


PORTUGAL

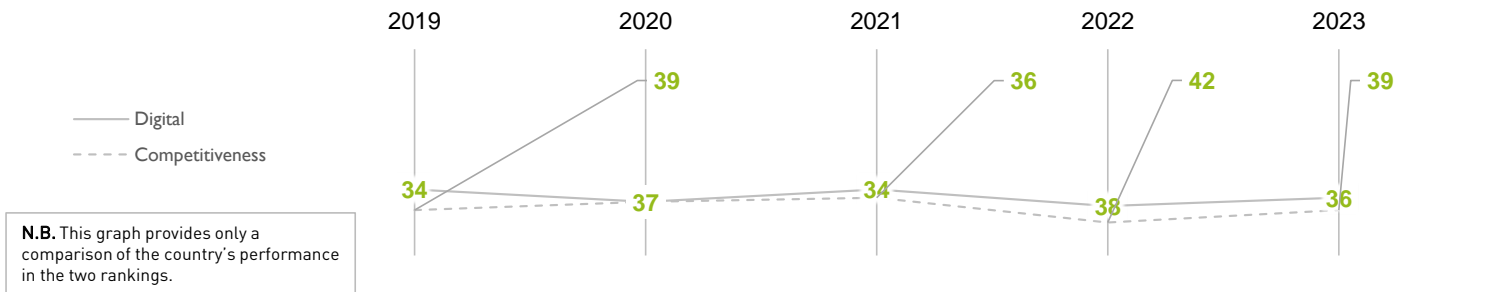
OVERALL PERFORMANCE (64 countries)



OVERALL & FACTORS - 5 years

	2019	2020	2021	2022	2023
OVERALL	34	37	34	38	36
Knowledge	31	33	32	29	31
Technology	38	38	38	39	40
Future readiness	34	41	38	40	36

COMPETITIVENESS & DIGITAL RANKINGS



PEER GROUPS RANKINGS

EUROPE - MIDDLE EAST - AFRICA (41 countries)



POPULATIONS < 20 MILLION (37 countries)



PORTUGAL

▶ Overall Top Strengths

▷ Overall Top Weaknesses

KNOWLEDGE

Sub-Factors	2019	2020	2021	2022	2023
Talent	26	24	22	29	29
Training & education	39	38	38	36	34
Scientific concentration	32	30	27	27	26

Talent	Rank	Training & education	Rank	Scientific concentration	Rank
Educational assessment PISA - Math	27	▷ Employee training	60	Total expenditure on R&D (%)	24
▷ International experience	56	Total public expenditure on education	37	Total R&D personnel per capita	25
Foreign highly skilled personnel	36	Higher education achievement	28	Female researchers	19
Management of cities	31	▶ Pupil-teacher ratio (tertiary education)	12	R&D productivity by publication	29
Digital/Technological skills	22	▶ Graduates in Sciences	16	Scientific and technical employment	27
Net flow of international students	21	Women with degrees	34	High-tech patent grants	34
				Robots in Education and R&D	34

TECHNOLOGY

Sub-Factors	2019	2020	2021	2022	2023
Regulatory framework	21	20	21	19	27
Capital	48	44	44	48	49
Technological framework	45	42	46	48	46

Regulatory framework	Rank	Capital	Rank	Technological framework	Rank
Starting a business	31	IT & media stock market capitalization	46	▶ Communications technology	08
Enforcing contracts	29	Funding for technological development	45	▷ Mobile broadband subscribers	58
▶ Immigration laws	06	Banking and financial services	39	Wireless broadband	52
Development & application of tech.	34	Country credit rating	44	Internet users	48
Scientific research legislation	39	Venture capital	45	Internet bandwidth speed	21
Intellectual property rights	32	Investment in Telecommunications	35	High-tech exports (%)	51

FUTURE READINESS

Sub-Factors	2019	2020	2021	2022	2023
Adaptive attitudes	32	31	30	35	26
Business agility	52	57	58	60	58
IT integration	29	34	30	25	25

Adaptive attitudes	Rank	Business agility	Rank	IT integration	Rank
E-Participation	29	Opportunities and threats	41	E-Government	35
Internet retailing	36	World robots distribution	31	Public-private partnerships	37
Tablet possession	28	▷ Agility of companies	56	Cyber security	47
Smartphone possession	24	▷ Use of big data and analytics	52	Software piracy	28
Attitudes toward globalization	26	Knowledge transfer	42	Government cyber security capacity	17
		Entrepreneurial fear of failure	45	▶ Privacy protection by law content	01