

Portugal

Archetype **High-trust diffusers**

GDP / person **\$32k**

Population **11M**

10-yr trend **2.2%**

Gradual **10%** · **#56**

Fast **16.4%** · **#43**

WHERE PORTUGAL STARTS

Portugal enters the AGI era as a high-trust diffuser: rich, skilled and quick to absorb AI, but without a frontier of its own. The scores explain the label. Cyber resilience is 4.7 out of 5, among the world's leaders. Language inclusion is 4.5 and AI diffusion capacity 3.9, so Portuguese firms and offices can put new tools to work fast. Portugal has also positioned Sines as an Atlantic digital gateway, with the EllaLink cable to Brazil and the Start Campus data-center project. What is missing is scale. Compute and energy access scores 1.7. Demographics and migration score 1.4, weighed down by an aging, long-emigrating population. Ten-year trend growth is 2.2% a year, and at about \$32,000 per person Portugal is a high-income economy. Every scenario turns on power, chips and people.

THE THREE PATHS

These are simulations, not forecasts. The Modest path is the baseline; the two AGI scenarios fork from it. Under the Modest scenario, AI stays a normal technology. Portugal would gain a small lift: 2.5% growth a year, 94th of 157. Its diffusion strengths would help, but without scale the gains stay small. Under **Gradual** takeoff, growth would climb for two decades and reach 10% a year once AGI matures around 2045. That would place Portugal 56th in the world. An economy growing at 10% doubles in about seven years. The long runway would give Portugal time to turn its skills and Atlantic connections into hosted services. Under **Fast** takeoff, growth would reach 16.4% a year from the early 2030s, a doubling every four to five years. Portugal's rank would rise to 43rd, thirteen places above its Gradual position, because a fast world rewards the diffusion and trust it already holds. Regulation and politics could slow or redirect any of these paths. How Portuguese citizens and their government respond to transformative AI is a variable the model holds constant.

HOW YOU WOULD KNOW WHICH WORLD YOU ARE IN

The scenarios look almost the same until about 2030. So watch leading indicators, not GDP, and check them live. Three global signals matter most. First, whether the METR task-horizon curve keeps doubling every four to five months through 2027–28; METR publishes it at metr.org. Second, whether frontier-lab revenue and capital spending keep compounding; Epoch AI tracks both at epoch.ai. Third, whether growth in the ten to twenty most-ready economies — the United States and China above all — breaks above trend in the early 2030s. Double-digit growth there within a couple of years of 2030 would signal a fast world. A point or two above trend by the mid-2030s would signal a gradual one. A fade back to trend

would signal a modest one. Portugal's own signals would arrive earlier than the GDP data: hyperscaler commitments at Sines, financial close and expansion at the Start Campus, new cable landings, and rising AI adoption reported by Portuguese firms.

IF GROWTH GOES EXPLOSIVE

Explosive is relative. At 10% growth a year under Gradual, Portugal would trail the frontier badly, because the United States would be compounding near 39% under Fast. Portugal's own Fast rate of 16.4% would only match its region's median. But both would run far ahead of its 2.2% history. At 16.4%, the economy doubles every four to five years, so a child starting school now could finish it in a country several times richer. Hosted computing and services could grow alongside the older industrial base. Rising wages at home would ease the pressure to emigrate that has drained Portugal for generations. There is a way this leaves Portugal worse off, and it is worth naming. Hosted compute is an asset only if Portugal owns it rather than rents it, and frontier access rests on alliance inclusion and open-weight models that decisions abroad could cut off. The hedge is to own capacity and spread partners. Even then, the pace-setter would shift to the state, testing whether the grid operator REN, permitting bodies and the courts can connect, approve and adjudicate fast enough.

WHAT PORTUGAL CAN DO NOW

Three levers follow from the scores, and two pay off whether or not AGI arrives. The first is catch-up headroom, low at 2.2. Stronger institutions, open trade and better absorptive capacity in schools, finance and infrastructure raise growth in the skeptic's world too, so this is a no-regret move. The second is demographics and migration, weakest at 1.4. Raising participation among women and older workers, and investing in human capital so people complement AI rather than compete with it, pays off under every scenario. That makes it a second no-regret lever, and skilled-migration visas can draw the talent an aging Portugal lacks. Protecting the diffusion and cyber strengths Portugal already leads costs little and matters throughout. The third lever is the bet. Compute and energy access, at 1.7, barely moves growth if AI stays ordinary, but under Fast takeoff it becomes Portugal's biggest lever, the heaviest-weighted factor of all. Closing it means fast grid connections, permitting reform and power-and-land packages for hyperscalers. Sweden shows the model: cheap renewable power drew Meta's hyperscale data center to Luleå. A cautious government can act on the two no-regret levers today and lose nothing. Open the atlas's [policy editor](#) to see how moving these scores reshapes Portugal's growth under each scenario.

The three levers — and which pay off regardless

Demographics & migration

score 1.4 / 5 · weight 12 under skeptic → 6 under fast takeoff

Counts under the Modest scenario too (12→6). Closing this gap pays off whether or not AGI arrives.

No-regret

Catch-up headroom

score 2.2 / 5 · weight 16 under skeptic → 6 under fast takeoff

Counts under the Modest scenario too (16→6). Closing this gap pays off whether or not AGI arrives.

No-regret

Compute & energy access

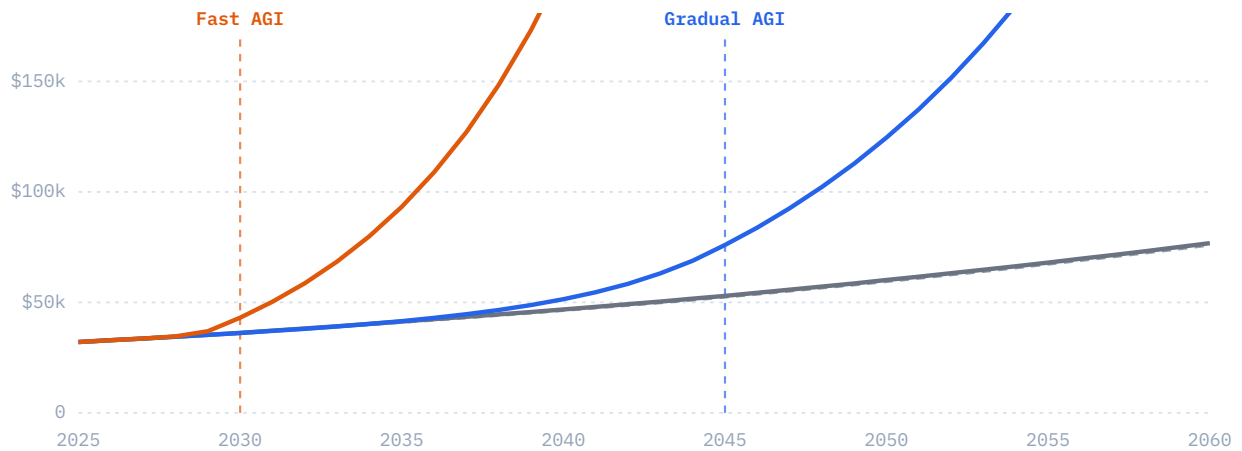
score 1.7 / 5 · weight 8 under skeptic → 24 under fast takeoff

Weight climbs from 8 to 24 as takeoff nears. It barely moves growth if AI stays ordinary — the lever that needs a view on the takeoff.

AGI bet

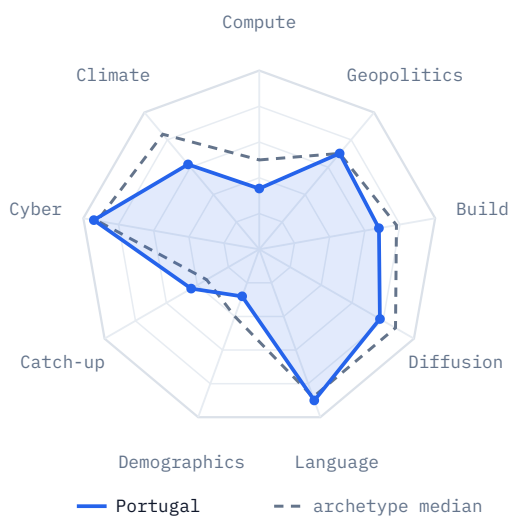
The no-regret levers pay off in every scenario, so a cautious government can act on them today. The AGI bet becomes decisive only if takeoff is real.

GDP per person to 2060, by scenario



Linear scale; solid lines are the three scenarios, dashed grey the no-AI baseline. Growth ramps from 2027 to each scenario's rate at its AGI year (Fast ~2030, Gradual ~2045), then holds. Timing and divergence are the point, not end levels; steep paths exit the top of the capped axis.

The nine factors



Solid: Portugal. Dashed: the median of its archetype. Scores are relative to the other 156 countries (3 ≈ global median, 5 = leading today).

Outcomes under each scenario

SCENARIO	GROWTH / YR	WORLD RANK	INDEX	DOUBLING
Modest	2.5%	94 / 157	62.6	—
Gradual	10%	56 / 157	59.7	7.3 yrs
Fast	16.4%	43 / 157	60.7	4.6 yrs

Post-AGI growth rate, rank among 157 countries, AGI Growth Index (0–100, scenario-weighted), and the implied economy doubling time. The Modest path is the baseline the AGI scenarios fork from.

THE THREE SCENARIOS

Modest the Acemoglu view

AI as a normal productivity tool

Intelligence was never the binding constraint on growth, so AI delivers real but ordinary gains. Each country gets a one-time boost of a couple of percent of GDP, phased in through 2035; growth then returns to trend. The mainstream-economics view.

≤0.66% TFP over a decade — a one-time gain

Portugal: 2.5% growth a year · #94 of 157

Gradual Erdil & Besiroglu, base case

Broad automation, on a long timeline

Broad automation of remote work arrives around 2045, with gains building slowly from the late 2020s. Growth then reaches up to ~20% a year for the best-positioned countries — ten times today's frontier trend. A slow arrival gives countries time to adapt, so the gains are wide but uneven.

up to ~20%/yr after 2045 — 10× the frontier trend

Portugal: 10% growth a year · #56 of 157

Fast Erdil & Besiroglu, fast takeoff

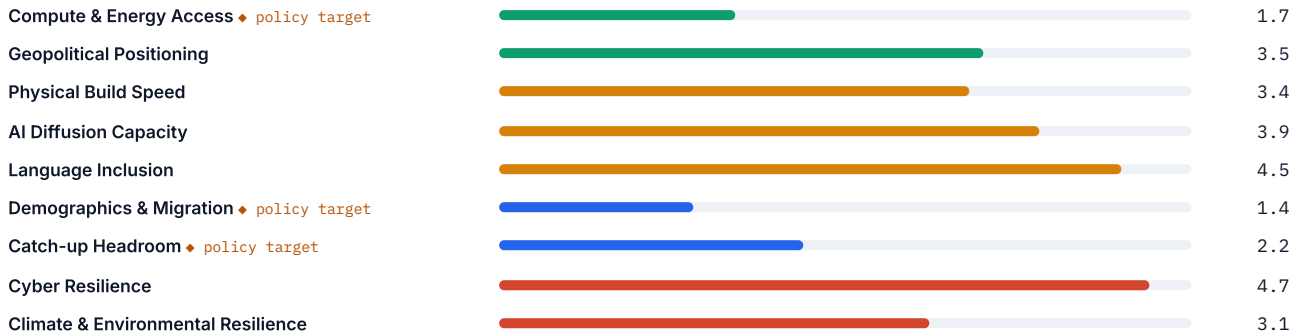
Fast takeoff — today's infrastructure decides

Transformation lands around 2030, before countries can adjust. Whoever already owns compute, capital and the ability to build wins; the gap between countries widens dramatically — and some are left growing slower than they would have without AGI.

up to ~40%/yr from 2030

Portugal: 16.4% growth a year · #43 of 157

Factor scores — and where policy bites



♦ marks this country's highest-leverage policy targets: the weakest factors carrying the most weight under the AGI scenarios. The atlas's interactive policy editor (agigrowth.org/#editor) simulates how raising any score changes growth under each scenario.

Archetype: High-trust diffusers

Rich, skilled and quick to absorb AI — including the big aging economies whose adoption outweighs their demographics.

Wins: The diffusion era — every year before full automation compounds their head start.

Watch: Little frontier capability of their own: dependent on alliance access and open weights; slow to build.

Canada 18.3% · #3	Ireland 17.4% · #4	United Kingdom 16.9% · #5	Australia 16.1% · #6	Singapore 15.7% · #7
New Zealand 15.5% · #9	Sweden 15.1% · #12	Norway 14.7% · #14	Germany 14.5% · #17	Switzerland 14.3% · #18

The regional picture — Rich, capable — and dependent on someone else's frontier.

Europe has the world's densest cluster of high-trust absorbers: strong institutions, high measured adoption, deep skills. What it does not have is a frontier. The entire continent hosts about 8% of tracked training compute — a tenth of the American share — and none of the leading labs. That makes Europe's position derivative in a way its wealth conceals: its access to frontier capability rests on continued alliance inclusion under the US AI umbrella (most of the continent sat in Tier 1 of the 2025 diffusion framework) and on open-weight models remaining available not far behind the frontier. Neither is guaranteed across twenty years, and the hedge — building sovereign European capability — collides with the region's domestic constraints: high energy prices, slow permitting, and workforces aging from Lisbon to Warsaw. The UK and Ireland lead on absorption; Central Europe is building real manufacturing capacity; the Balkans and Moldova trail on institutions; Ukraine remains a war economy. Given AGI, Europe's internal spread is already wide — and the gap between absorbing AI and owning any part of it is the region's defining exposure.

Method, in brief

Each country is scored 1–5 on nine factors from public data (World Bank, Epoch AI, ITU, IMF and national sources). A scenario-weighted average forms the AGI Growth Index (0–100), which maps to a post-AGI growth rate inside ceilings derived from Erdil & Besiroglu (2023): ~20% growth a year for the best-positioned country under Gradual takeoff (AGI ~2045), ~40% under Fast (AGI ~2030); growth ramps convexly from 2027. The scenario sets the growth rates on offer; the index only decides where each country sits within them. The Modest scenario is the skeptics' baseline — a small uplift on each country's own ten-year trend. These are simulations for structured thinking, not forecasts; no probabilities are attached to any scenario.

Watch the global signals live: the METR task-horizon curve at metr.org/time-horizons · frontier-lab revenue at epoch.ai/ai-companies · AI-chip spending at epoch.ai/ai-chip-sales.

Explore further: full methodology agigrowth.org/#methodology · map & rankings agigrowth.org/#explore · country profiles agigrowth.org/#countries · policy editor agigrowth.org/#editor