

AI Adoption in Polish Enterprises

A GUS × Eurostat reconciliation, 2021–2025

Marcin J. Oldak · 2026-06-17 · A reproducible, zero-cost analyst workflow (public data → audited pipeline → cited report)

Scope, stated upfront. Both sources measure the whole business economy **excluding the financial sector (NACE K)** — no public dataset of AI adoption specific to Polish banks is available (none from NBP, KNF, EBA or ECB as of mid-2026). These are economy-wide figures; the banking read is contextual (a consolidated, large-firm sector maps to the high-adoption segment), not a finance-sector cut. This synthesises public data — it produces no new facts.

Key findings

- **The same indicator reconciles across two statistical offices.** For enterprises with 10+ employees in 2025, GUS reports 8.7% using any AI vs Eurostat's 8.36% — a +0.34 pp gap, like-for-like (both exclude the financial sector).
- **AI adoption is steeply size-dependent.** In Poland it rises from 6.1% (small) to 15.6% (medium) to 42.0% (large firms).
- **Poland is climbing fast off a low base.** Adoption (10+) went from 2.86% (2021) to 8.36% (2025).
- **...yet the gap to the EU is widening, not closing.** Poland trails the EU27 mean by 4.79 pp in 2021 and 11.59 pp in 2025; its rank slipped from 26 to 31 (of ~33 reporting countries) — the EU27 average rose faster.

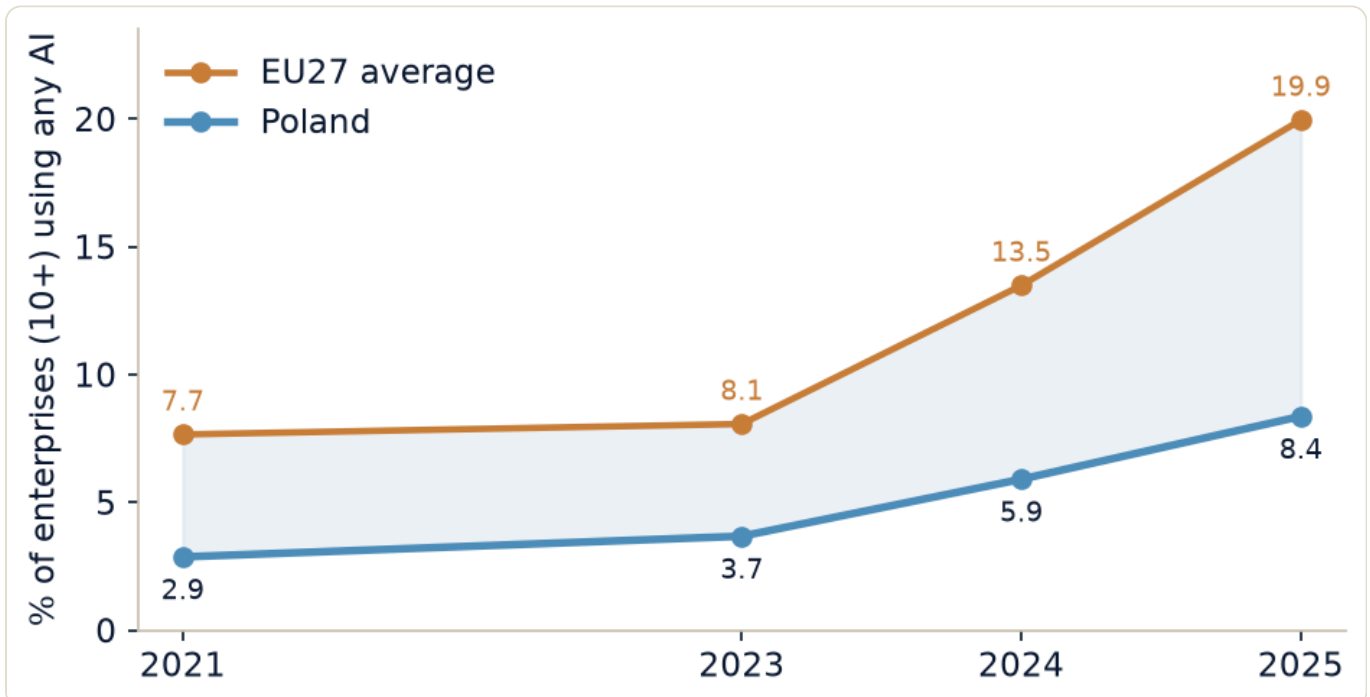


Fig. 1 — AI adoption by enterprises (10+ employees), Poland vs the EU27 average. 2022 was not surveyed. Chart labels are rounded to one decimal; tables show the exact values.

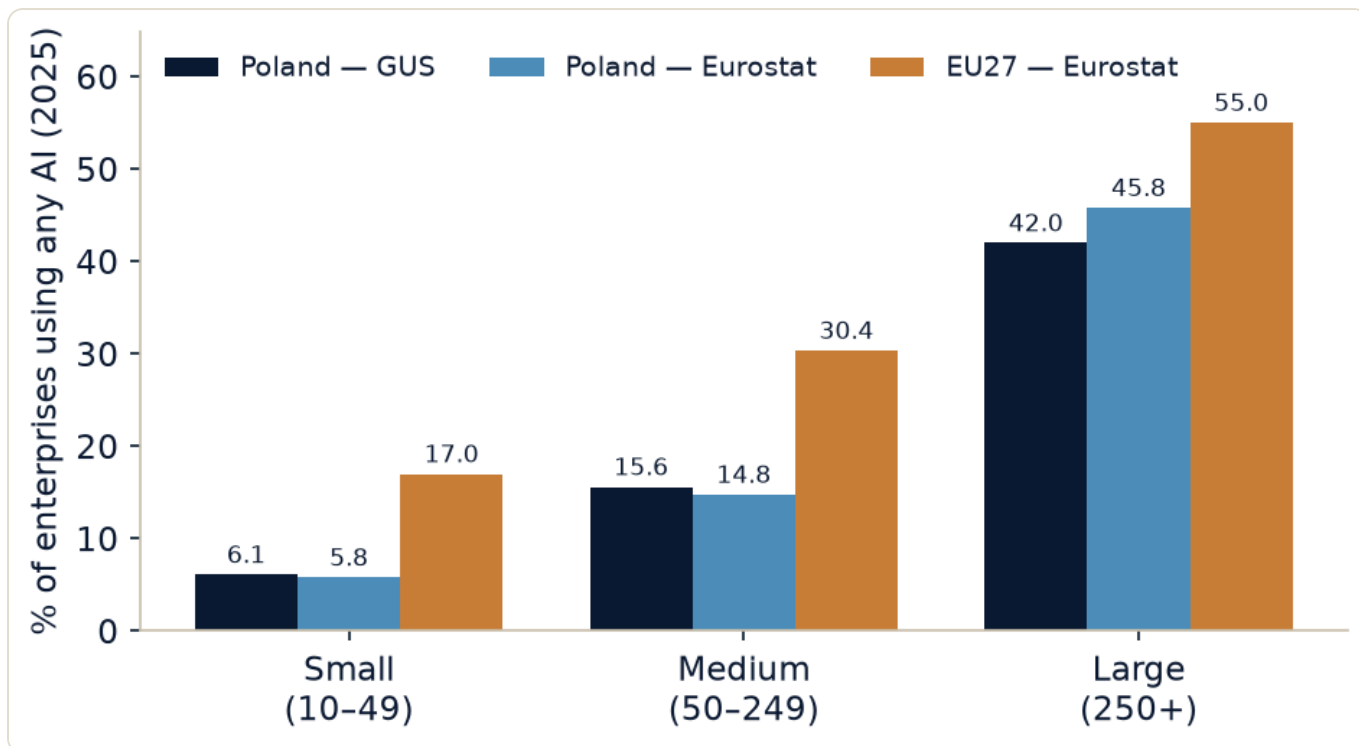


Fig. 2 — AI adoption by firm size (2025): Poland (GUS & Eurostat) vs the EU27 average. GUS and Eurostat track closely; Poland trails the EU at every size.

Q1 · Reconciliation — GUS vs Eurostat (2025, by size)

A JOIN on (country, year, size) puts the two offices side by side. SME classes agree within ~0.8 pp; the 250+ class diverges more (a small population, noisier across surveys).

Size class	Eurostat code	GUS %	Eurostat %	Δ pp	Δ %
Total (10+, excl. NACE K)	GE10	8.7	8.36	0.34	4.1
Small (10-49)	10-49	6.1	5.79	0.31	5.4
Medium (50-249)	50-249	15.6	14.77	0.83	5.6
Large (250+)	GE250	42.0	45.81	-3.81	-8.3

Q2 · Poland vs EU27 benchmark (2025)

Multi-table JOIN: the national rate alongside the EU mean for each size class.

Size class	PL · GUS %	PL · Eurostat %	EU27 %	PL – EU27 pp
Total (10+, excl. NACE K)	8.7	8.36	19.95	-11.59
Small (10-49)	6.1	5.79	17.0	-11.21
Medium (50-249)	15.6	14.77	30.36	-15.59
Large (250+)	42.0	45.81	55.03	-9.22

Q3 · Adoption trajectory & EU ranking (2021–2025)

Window functions: change since the previous survey wave (2022 not surveyed) and Poland's rank among reporting countries (supranational aggregates excluded).

Year	PL %	Δ since prev. wave (pp)	Years	PL rank	# countries
2021	2.86	nan		26	33
2023	3.67	0.81	2	29	32
2024	5.9	2.23	1	31	33
2025	8.36	2.46	1	31	33

Q4 · Is Poland catching up? (running gap)

A self-JOIN (PL vs EU27) plus a 2-year framed rolling average. The gap widens — Poland is not closing in.

Year	PL %	EU27 %	Gap pp	2-yr avg gap
2021	2.86	7.65	-4.79	-4.79
2023	3.67	8.06	-4.39	-4.59
2024	5.9	13.48	-7.58	-5.99
2025	8.36	19.95	-11.59	-9.59

Method & reproducibility

Public data only. GUS (Wykorzystanie ICT w przedsiębiorstwach 2025, Tab.15) and Eurostat `isoc_eb_ai` (E_AI_TANY). Every dataset ships a provenance record (source, endpoint, access time, SHA-256, license, vintage).

Audited pipeline. pandera data contracts fail the build on drift; analysis is hand-written DuckDB SQL (JOIN + reconciliation + window functions); the whole report rebuilds from raw with one command (DVC). Generated/assisted with Claude Code and a local LLM (LM Studio) — **AI-augmented, not AI-substituted**: every figure is rewritten and understood by hand.

Honest limits. Economy-wide, excluding NACE K; a synthesis of public figures, not new measurement. Figures cross-checked against the GUS Tab.15 and Eurostat `isoc_eb_ai` primary sources.

Sources

GUS — Główny Urząd Statystyczny, *Wykorzystanie technologii informacyjno-komunikacyjnych w przedsiębiorstwach w 2025*, Tab.15. License: public statistics, free reuse with attribution.

Eurostat — *ESTAT:ISOC_EB_AI* (Enterprises using at least one AI technology), unit PC_ENT, NACE C10-S951_X_K; dataset vintage 15/06/26 11:00:00. License: © European Union, free reuse with attribution.