asteyo

WHITE PAPER · IT TALENT STRATEGY

The DACH IT Talent Gap Is Structural, Not Cyclical

A sourcing strategy for German-speaking Mittelstand and software vendors facing a decade-long engineering shortfall.

Thomas Wolenski, CSO · Alexandru Bereczki, CEO

June 2026 · v0.4

Asteyo SRL, Cluj-Napoca · office@asteyo.com · asteyo.com

EXECUTIVE SUMMARY

A supply-side constraint, not a demand-side correction

Germany's IT labour market has not normalised after the post-pandemic turbulence. It has stabilised at a level that would have been considered a crisis a decade ago. As of August 2025, roughly 109,000 IT positions sat unfilled across German companies — the fourth-highest reading since Bitkom began tracking in 2009, even after a partial easing from the record 149,000 peak in 2023.[1] Eighty-five percent of companies rate the current supply as insufficient. Seventy-nine percent expect the shortage to worsen.[1]

This paper is written for the ambitious mid-market business and software vendor that is running out of conventional options. It sets out the structural drivers, addresses the six most common counterarguments honestly, and makes the case for Romania as a renewable EU nearshore talent pool — via a partnership model that starts with one senior specialist and builds, at whatever pace confidence warrants, toward a permanently dedicated engineering capacity. All figures are cited to primary or best-available public sources; [VERIFY] flags mark claims requiring further primary-source confirmation before external use.

Three things this paper establishes

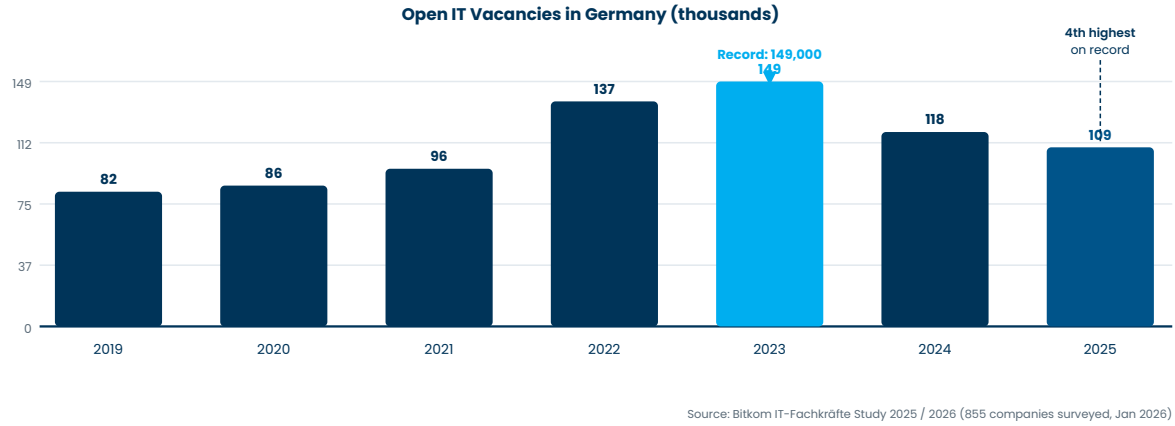
- The talent shortage is structural: demographic ageing, a depleted legacy-skills pipeline, and salary convergence in established nearshore markets all point to a decade-long constraint.
- The conventional toolkit has been exhausted: local hiring, salary bidding, Polish nearshore, far-shore, and GenAI — each has real limits this paper addresses directly.
- Romania offers a renewable EU senior talent pool at sustainable unit economics — and EU jurisdiction removes an entire category of compliance overhead that non-EU models cannot avoid.

Left to right: open IT positions Germany (Bitkom, Aug 2025); average time-to-fill (Bitkom, Jan 2026); demographic projection for 2035 (Destatis, Dec 2025).

109,000 open roles and a structural demographic headwind

The headline vacancy count understates the full constraint, because it measures only unfilled roles — not the demand that organisations quietly gave up trying to satisfy. Bitkom's 2025 study,[1] based on 855 company interviews, surfaces a complete picture:

- **109,000 open IT positions** — after two years of partial recovery from the 149,000 peak, the market has found a plateau, not a floor.
- **7.7 months average time to fill** an IT vacancy, unchanged despite broader labour market softening.
- **85% of companies** rate the current IT talent supply as insufficient; only 4% report an oversupply.
- **25% of companies receive virtually no applications** for open IT roles.
- **Only 14% currently recruit internationally**, despite the scale of the gap; a further 24% say they plan to.



Open IT vacancies in Germany, 2019–2025. Source: Bitkom IT-Fachkräfte Study 2025/2026. Values in thousands of open positions.

The demographic headwind

Germany's Federal Statistical Office (Destatis) 16th population projection (December 2025)[4] confirms the structural framing: by 2035 — well within any software vendor's technology roadmap — one in four Germans will be aged 67 or older. The working-age population (20–66) stands today at 51.2 million; Destatis projects a decline to between 37 and 45 million by 2070, depending on migration. Even the most optimistic scenario implies a minimum reduction of 4 million working-age people. The old-age dependency ratio rises from 33 per 100 working-age persons today to between 43 and 61 per 100 by 2070. Net migration moderates but does not reverse this trend.

02 · WHY THE USUAL FIXES HAVE RUN OUT

The standard toolkit has reached its structural limits

Each conventional response deserves an honest assessment, including the most recent entrant.

Local hiring — supply ceiling, not a queue.

In 2024, approximately 81,000 people enrolled in German computer science programmes and around 39,000 graduated.[1] That figure is distributed across the entire economy's demand for new IT entrants and does not address the need for experienced senior professionals who can contribute immediately. Women make up only 27% of computer science students and 9% of IT apprentices — the diversity constraint compounds the supply constraint. Paying relocation bonuses redistributes an insufficient pool at higher unit cost.

Salary competition — permanent cost inflation, marginal supply gain.

The 2025 StepStone data puts the median software developer annual salary in Germany at approximately EUR 51,200, with senior developers at larger companies reaching a median of EUR 71,250.[5] These benchmarks have reset permanently upward since 2020. Paying more does not create more candidates; it redistributes insufficient supply at higher unit cost.

Can't GenAI simply close the gap?

This is the sharpest counterargument, and it deserves a direct answer. Generative AI genuinely accelerates code generation, test coverage, documentation, and certain categories of refactoring. Eight percent of German companies already deploy AI tools specifically to compensate for IT staffing gaps.[1] What AI does not supply is the senior engineering judgment required to work through a legacy codebase whose logic is only partially documented, to communicate with a German enterprise customer in a regulated industry, or to make architectural decisions that will hold up over a five-year roadmap. AI raises the ceiling for engineers you already have. It does not replace the experienced professionals you cannot hire. For the foreseeable medium term, AI tools and nearshore senior capacity are complementary.

Poland — matured and repriced.

Poland remains technically strong. Senior Java and .NET developers in Warsaw now command PLN 22,000–29,500 per month gross (2024 data).[3] The combination of rising rates, demand saturation at major delivery centres, and hyperscaler competition has made Poland a mature market. There is no longer a meaningful cost differential versus Germany at the senior level.

Far-shore — friction, not savings.

A 5–8 hour time-zone misalignment with CET compresses collaborative working to a narrow window, slows defect resolution cycles, and creates handover dependencies that require active management overhead. Data residency and GDPR transfer compliance introduce legal overhead that grows with project sensitivity. Business German — which matters in enterprise software for financial services, public administration, and manufacturing — is near-impossible to price into an offshore rate card.

03 · THE LEGACY-SKILLS DOUBLE BIND

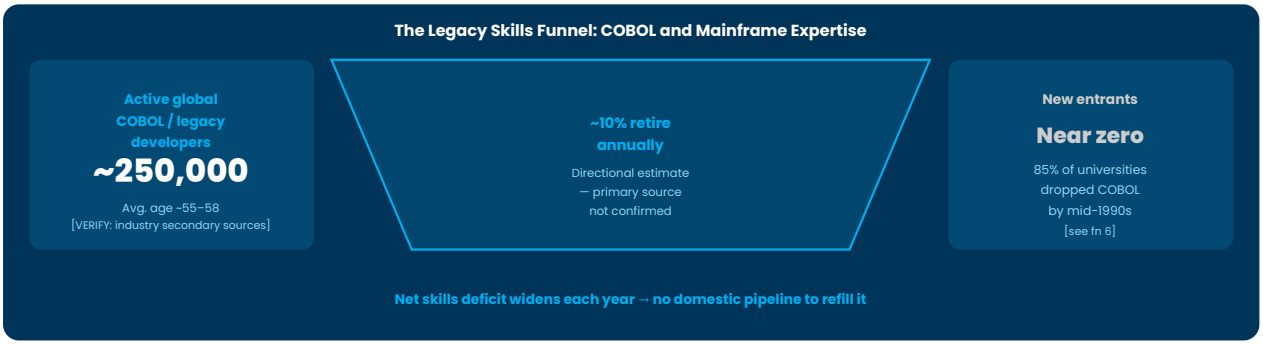
A retirement cliff with no intake pipeline

For DACH software vendors and technology-driven Mittelstand, the talent gap has a second, sharper edge: the concurrent retirement of the generation of engineers who built and have maintained legacy systems over the past three to four decades.

COBOL alone still processes an estimated $3 trillion in daily financial transactions globally and runs on hundreds of millions of lines of production code.[6] The equivalent figures for Natural/Adabas, RPG for IBM iSeries, and Delphi-based ERP systems in the German Mittelstand are cumulatively substantial — particularly in insurance, manufacturing, logistics, municipal utilities, and public administration.

The demographic problem with these stacks is acute. The average COBOL programmer is approximately 55–58 years old, and roughly 10% of this cohort retire every year *[VERIFY — figures widely cited via IBM/industry secondary sources; no primary report confirmed; treat as directional, not precisely sourced]*.[7] Over 85% of universities dropped COBOL from their curriculum in the 1990s, meaning almost nothing flows into the pipeline at the entry end.[6]

The downstream consequence is concrete. A vendor whose core system runs on Natural/Adabas or COBOL cannot modernise overnight, cannot find a replacement engineer locally, and cannot realistically offshore the work to a team that has never maintained a Bankverarbeitung or Versicherungskern system. When the last three people who understand a critical module are all approaching retirement simultaneously, the risk is existential — and it arrives on a defined timetable.



The Legacy Skills Funnel: illustrative — [VERIFY]-flagged figures should be confirmed against primary sources before external use.

04 · ROMANIA AS A RENEWABLE SENIOR POOL

Supply depth, EU jurisdiction, and time-zone alignment

Romania's IT sector has moved well beyond its early-2000s positioning as a cost-play destination. The supply-side numbers are the foundation; the more important observation is that the sector has developed genuine depth in enterprise technologies, EU-native governance, and the professional culture that makes senior-level collaboration work with Central European clients.

200k–250k	9,300+	+1h
Technology specialists	**Engineering graduates p.a.**	**Time-zone offset to DACH**
Large absolute EU pool	Renewable — not a fixed cohort	Full working-day overlap, no overnight lag

Workforce scale. Romania has an estimated 200,000 to 250,000 technology specialists — a large absolute pool by EU standards.[8] Density is a different matter: Eurostat put Romania's ICT-specialist share at 2.8% of total employment in 2024, near the bottom of the EU range and well below the 5.0% EU average.[11] The honest reading: Romania offers a sizeable and growing talent base rather than the densest one. The case rests on absolute scale, a renewable graduate pipeline, EU jurisdiction, and proximity to the DACH region.

The graduate pipeline. Romania's 49 public and 8 private universities produce more than 9,300 engineers and computer science specialists annually.[10] Iaşi alone — Romania's third technology hub — produced approximately 2,800 IT graduates in 2024, with the Technical University expanding its AI and cybersecurity cohorts by 30% for 2025/2026. This contrasts directly with the COBOL retirement cliff described in Section 3: the pipeline is renewable, not fixed.

Cost as an enabler, not a headline. Senior Romanian developers command gross annual salaries of approximately EUR 55,000–84,000 (PBS Worldwide 2025).[9] German equivalent roles sit between EUR 60,000 and EUR 100,000 at established employers. The all-in differential — accounting for employer-side costs and social contributions — is roughly 35–45% in Romania's favour at present. This is a meaningful multi-year programme cost enabler; it is not the primary argument.

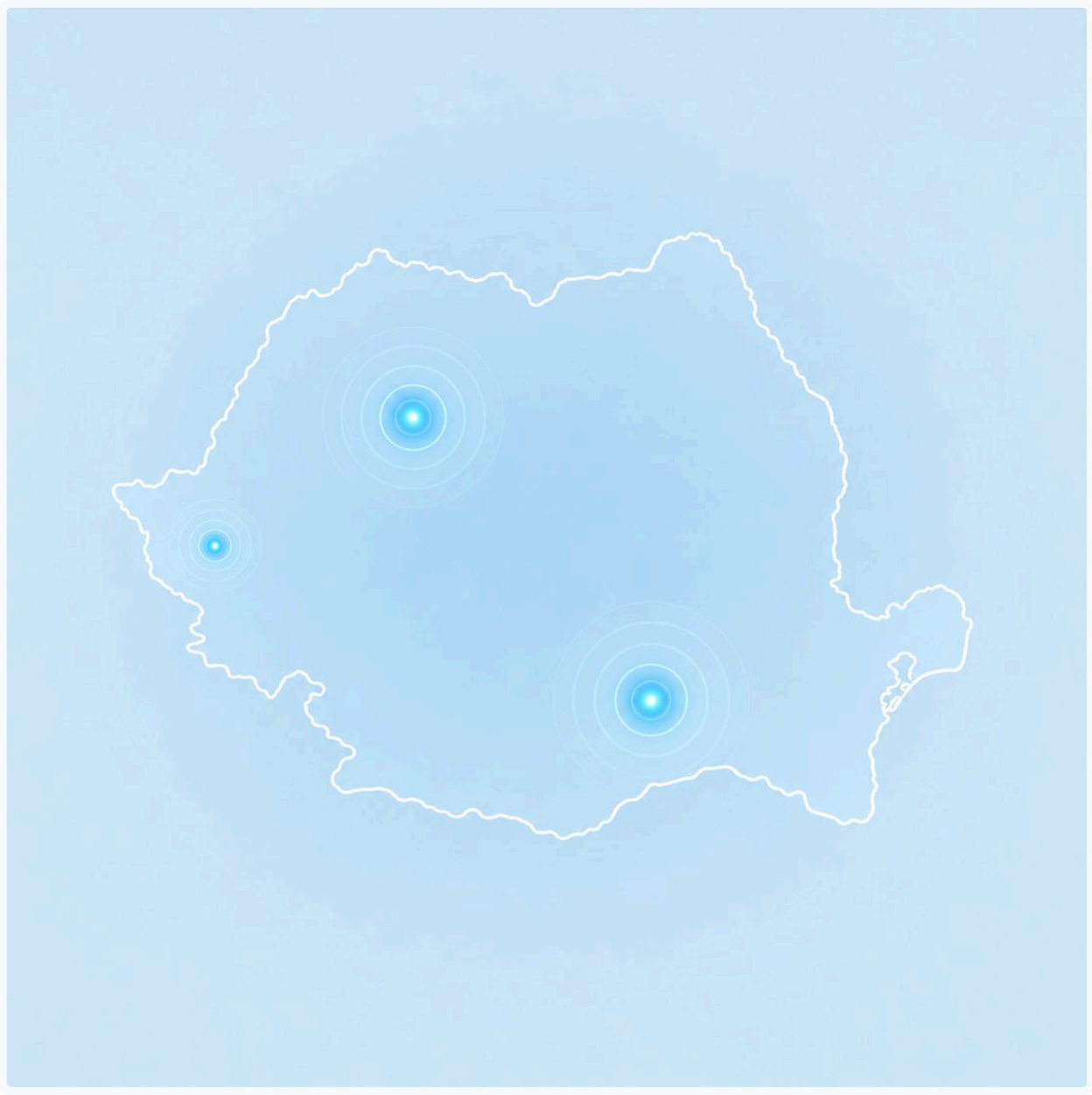
EU jurisdiction and GDPR by default. Romania has been an EU member since 2007. Data processed by a Romanian team stays within the EU's data-protection framework without Standard Contractual Clauses, adequacy decisions, or transfer impact assessments. For German software vendors whose end-customers operate in regulated industries, this eliminates an entire category of legal overhead and client-facing risk. No nearshore provider outside the EU can offer this equivalently.

Time-zone alignment. Romania operates on EET/EEST — constantly one hour ahead of Germany's CET/CEST throughout the year.[12] A Cluj-based team has a full working-day overlap with any DACH office from 09:00 CET to at least 17:00 CET. Stand-ups, sprint reviews, escalations, and production incidents are handled in real time.

German-language capability. Asteyo's delivery team is 40% German-speaking and 100% English-capable. For client-facing roles — project management, service desk, stakeholder communication — German fluency is a managed selection criterion.

> **"Ukraine — cheaper and closer, no?"** Ukraine has a strong technical talent pool. The ongoing war creates business continuity risk that most German enterprise customers in regulated sectors cannot absorb — on data residency, operational resilience, and compliance grounds. Romania is EU, NATO, politically stable, and fully within the EU's regulatory orbit.

Romania: geography and context



Romania: EU member since 2007, one-hour time offset to DACH, established tech hub in Cluj-Napoca.

Romania: 9,300+ engineering graduates annually; EU member since 2007; 40% of Asteyo's team is German-speaking.

05 · HOW ASTEYO CLOSES THE GAP

Senior from day one — three stages, one team

Asteyo works as a long-term delivery partner, not a staff augmentation body shop with a regional angle. That means being precise about what it means in practice — and about the honest constraints of a firm founded in 2025.

Every Asteyo engagement begins with experienced professionals — senior engineers, architects, or domain specialists — who can contribute to design decisions from week one. This matters most in the legacy-stack context: a COBOL or Natural/Adabas specialist who requires six months of ramp-up before they can be useful is not solving the problem; they are extending it.

STAGE 1

Specialist / Extended Workbench

A single specialist or a small group of two to four senior engineers is embedded into the client's existing processes and toolchain. This stage validates fit, builds context, and demonstrates delivery quality before any structural commitment. For software vendors facing a legacy-skills bottleneck, this is where a COBOL maintainer or Delphi migration engineer joins the existing internal team and begins absorbing system knowledge alongside current staff.

STAGE 2

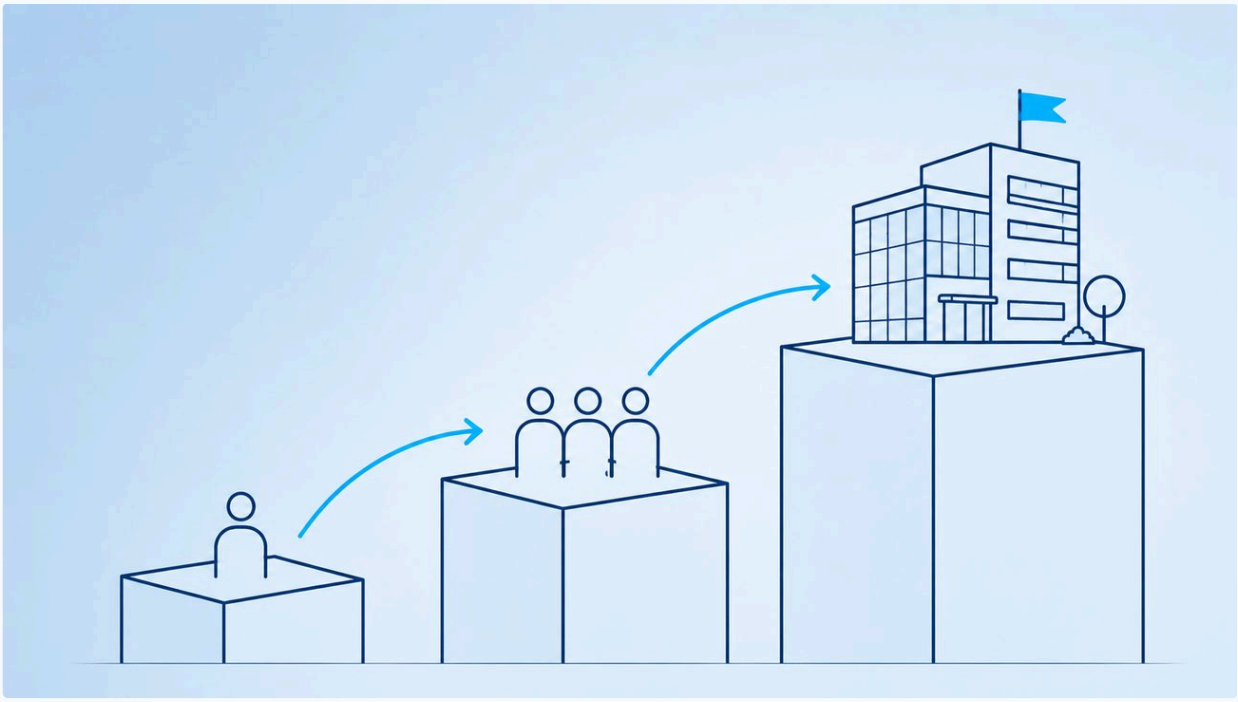
Dedicated Team

As confidence and scope grow, the engagement expands into a dedicated team of five to fifteen engineers operating under Asteyo's delivery governance but fully aligned to the client's product and technology roadmap. The team is not shared with other clients. It has a stable composition that preserves the knowledge-transfer investment made in Stage 1.

STAGE 3

Own JV / Build-Operate-Transfer

For clients who conclude that a permanent Romanian technology centre represents the most resilient long-term model, Asteyo supports a Build-Operate-Transfer structure — a joint venture in which the client transitions from service customer to co-owner of the delivery entity. Asteyo provides operational infrastructure, recruiting relationships, and local regulatory knowledge; the client provides strategic direction and, over time, ownership.



Three-stage path: Specialist → Dedicated Team → Own JV (BOT). Each stage is auditable and reversible.

05 · HOW ASTEYO CLOSES THE GAP

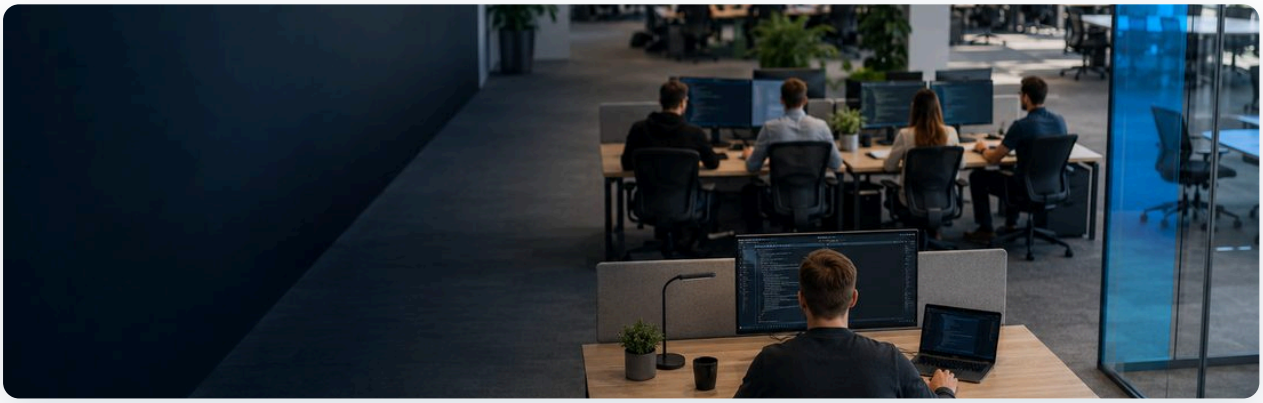
Technology coverage & credentials

Technology coverage: Java, Python, .NET, COBOL, React, Angular, Vue, Node.js, PHP; Azure, AWS, GCP; SAP enterprise integration; multilingual service desk at 1st, 2nd, and 3rd level. Thomas Wolenski (CSO) holds IPMA Level B and ITIL Expert certifications.

Provider-viability: the honest case. Asteyo was founded in 2025. A sharp buyer will ask why they should build a strategic dependency on a provider less than two years old. The relevant facts: the founding team has operated at enterprise IT programme level for over two decades; Asteyo holds ISO/IEC 27001:2022 and ISO 9001:2015 certification (SYSTEMA, IAS/IAF-accredited, valid to December 2028; certified scope: custom client-oriented software development); the ownership structure (Trafeon GmbH 80%, Alexandru Bereczki 20%) provides continuity of governance. The Stage 1 entry model is deliberately small enough that provider risk is bounded.

ISO 27001 SYSTEMA · ISO 9001 SYSTEMA · EU Member State · GDPR by Default

ISO/IEC 27001:2022 & ISO 9001:2015 certified · SYSTEMA (IAS/IAF-accredited) · Valid Dec 2025–Dec 2028 · Scope: custom client-oriented software development



Asteyo engagement model: from specialist pod to a scalable, stable unit — one team, not a vendor relationship.

asteyo

“The DACH IT talent gap will not resolve itself within the planning horizon of any technology roadmap you are managing today. The organisations that respond earliest are those that begin building their European extended-delivery capability now, while internal knowledge is still transferable and while Romania’s senior talent pool is still accessible at sustainable unit economics.”

ASTEYO DACH IT TALENT GAP THESIS, 2026

06 · NEXT STEP

Start with a conversation

A single senior engineer placed alongside your existing team for a six-month pilot produces three outcomes that are independently useful: a concrete capability contribution, a validated assessment of cultural and technical fit, and a documented knowledge base that retains value regardless of what you decide next.

If any of the following are recognisable in your organisation, we welcome a direct conversation:

- An IT staffing bottleneck slowing delivery on a current project.
- An ageing legacy-stack team approaching a knowledge-transfer risk.
- A need to build a sustainable EU-based engineering capacity over a three-to-five year horizon.
- A Poland or far-shore arrangement that has repriced beyond its original business case.

Get in touch

office@asteyo.com · asteyo.com

If any of these are recognisable in your organisation, we welcome a direct conversation.

ISO 27001 SYSTEMA · ISO 9001 SYSTEMA

EU Nearshore **GDPR by Default**

ISO/IEC 27001:2022 & ISO 9001:2015 certified · SYSTEMA (IAS/IAF-accredited) · Valid Dec 2025–Dec 2028 · Scope: custom client-oriented software development

Asteyo — Reliability · People · Partnerships. We get things done.

SOURCES & NOTES

References

Figures are cited to their primary or best-available public sources. [VERIFY]-flagged items should be confirmed against primary sources before external distribution — see finalisation note in the source document.

1 **Bitkom e.V.**, "Der Arbeitsmarkt für IT-Fachkräfte — Studienbericht 2025/2026," representative CATI survey of 855 companies, published January 2026. bitkom.org/Bitkom/Publikationen/Der-Arbeitsmarkt-fuer-IT-Fachkraefte; press release Aug 7, 2025.

2 **Adecco Group / Swiss Job Market Monitor** (University of Zurich), "Swiss Skills Shortage Index 2024." adeccogroup.com

3 **Bulldogjob** Polish IT Community Report 2024, salary data for senior developers in Warsaw. bulldogjob.com/it-report/2024/salaries

4 **Destatis** (German Federal Statistical Office), 16th Coordinated Population Projection, Press Release PE25_446_12, December 11, 2025. destatis.de/EN/Press/2025/12/PE25_446_12.html

5 **StepStone Gehaltsreport 2025**, cited via heise.de "Salary Report: What IT professionals earn," 2025. heise.de [VERIFY against StepStone primary publication before external use.]

6 **Metaintro**, "The $3 Trillion Code Nobody Knows How to Fix," 2026, citing IBM and industry research on mainframe talent. metaintro.com/blog/cobol-developer-shortage [VERIFY: specific percentage figures are widely recirculated via secondary outlets; no confirmed primary research report identified at time of drafting. Treat as directional only.]

7 **BizTech Magazine**, "How Financial Services Companies Can Maintain Mainframes as COBOL Experts Retire," April 2025. biztechmagazine.com Secondary source — see [VERIFY] note on [6].

8 **ANIS** (Employers' Association of the Software and Services Industry Romania), IT Industry Study 2024. anis.ro/it-industry-study-2024. Sector turnover EUR 17.7 billion in 2024 (~+13% YoY). [VERIFY: total workforce headcount — secondary vendor sources cite 200,000–250,000.]

9 **PBS Worldwide**, "Salaries in Romania in the IT Sector for 2025." Gross annual salary ranges for senior Java/Python/React: EUR 54,610–83,592. pbsworldwide.com/recruitment/salaries-romania-it-sector-2025

10 **DevsData**, "Outsourcing to Romania: Overview & Market Report for 2025," citing university graduate output. devsdata.com/outsourcing-romania-overview-market-report; KiTalent, "Iaşi Software Talent in 2026." kitalent.com

11 **Eurostat**, "ICT specialists in employment," 2025 edition (2024 data). Romania: 2.8% of total employment, near EU bottom; EU average 5.0%. ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20250708-2

12 **Time-zone reference:** Romania EET (UTC+2 winter) / EEST (UTC+3 summer); Germany CET (UTC+1 winter) / CEST (UTC+2 summer). Constant 1-hour offset; both regions observe DST on the same EU-mandated dates.