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Part 1: Management summary

Legacy Check – Example report

MERKUR · Muster Haustechnik Großhandel GmbH (fictional)

Analysis of a Delphi 7 inventory management system with a Firebird database

September 2026 · Version 1.0

Prepared by neocoding.ai · neocor cloud UG (haftungsbeschränkt)
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Fictional example: company, application and all figures are invented. Structure and depth match a real Legacy Check.

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The situation

Muster Haustechnik Großhandel GmbH (fictional) – Wholesaler of plumbing and heating supplies with 85 employees, a central warehouse and two trade counters.

MERKUR has been developed since 1998 by a one-person software company and is still maintained by the same developer. He has announced that he will retire at the end of 2027; the rights to the source code were transferred by contract in 2025. At the same time, mandatory e-invoicing is around the corner, and the installer customers expect digital ordering. Management wanted to know whether MERKUR has a future – and if not, how to switch without disrupting day-to-day business.

320,000

lines of code

186

tables

335

procedures and triggers

74

reports

Language / platform	Delphi 7 (Object Pascal, VCL), 32-bit, run on a Windows terminal server
Size	One main program, approx. 320,000 lines of code in 410 units, 265 forms
Database	Firebird 2.5 on Windows Server 2016 · 186 tables, 240 stored procedures, 95 triggers, 52 GB
Reports	74 FastReport reports (documents, lists, labels)
Interfaces	DATANORM and UGL import from 140 suppliers, IDS Connect for installers, B2B web shop (nightly sync), DATEV export
Usage	38 concurrent users at 3 sites, 12 handheld scanners in the warehouse
Development	One external developer since 1998; no version control (ZIP archive per version), no automated tests
Documentation	User manual from 2014 (80 pages), no technical documentation

Goals

- Assess MERKUR's future and the risks for operations
- Meet the e-invoicing obligation in time
- Secure the developer's knowledge while he is still available

Scope of the Legacy Check

Fixed price €2,499 net · Completed within 2 calendar weeks

- Analysis of the complete source code and database schema (anonymised copy, no live data)
- AI-assisted code analysis with the right model for each task and proven prompts, all findings reviewed by experienced developers
- Two interviews: business department (sales and warehouse) and the current developer
- Review of infrastructure, operations, third-party components and licences
- Results presentation (online, 60 minutes) and this report

Overall assessment

Strong for the business, technically at the end of its life cycle

MERKUR maps Muster Haustechnik's business in great depth – pricing logic and project business are real strengths. The technical foundation, however, is exhausted: Delphi 7 and Firebird 2.5 are no longer developed, and all knowledge sits with one developer who retires at the end of 2027. Two issues cannot wait: the database reachable from the internet and mandatory e-invoicing from 1 January 2027. After that, we recommend replacing MERKUR step by step with a web application.

Traffic-light rating

AREA	RATING	REASON
IT security	● Red	Database reachable from the internet; all clients use SYSDBA with an unchanged password; Firebird 2.5 without updates.
Legal requirements	● Red	E-invoices (XRechnung, ZUGFeRD) cannot be created – mandatory from 1 January 2027.
Knowledge & documentation	● Red	A single developer, retiring at the end of 2027; approx. 30 of an estimated 260 business rules described.
Technology outlook	● Red	Delphi 7 (2002) without Unicode or 64-bit; key components discontinued; Delphi developers are scarce.
Maintainability & code quality	● Amber	Organised by business area, but approx. 55% of the logic in forms, 18% duplicates, no tests.
Operations & infrastructure	● Amber	Restores tested regularly; but server support ends 01/2027, build only on the developer's computer.
Database & data	● Amber	Clean core model; but character set problems, duplicate articles and approx. 40% of the logic in triggers and procedures.
Business fit	● Green	Covers trading, warehouse and project business very well; pricing logic as a competitive advantage.

The five biggest risks

NO.	RISK	RATING	ACTION
R1	E-invoicing obligation from 2027 cannot be met	CRITICAL	E-invoicing service (XRechnung, ZUGFeRD) next to MERKUR – ready by 31 December 2026.
R2	Database reachable from the internet	CRITICAL	Close the port immediately, sync through a secured interface, accounts with minimal rights.
R3	Knowledge monopoly with an expiry date	HIGH	Agree a knowledge transfer by contract, document the business rules.
R4	Platform without a future	HIGH	Short term Firebird 5 and Windows Server 2025, medium term replacement.
R5	No source code management	HIGH	Git and build environment in the company, licences in the company's name.

The options compared

OPTION	EFFORT WITHOUT AI	DURATION WITHOUT AI	SAVING WITH AI	ASSESSMENT
A · Secure and meet obligations	55–70 PD	3–4 months	30–40%	Essential and immediate
B · Upgrade to current Delphi	470–630 PD	18–24 months	50–70%	Feasible, but does not solve the skills shortage
C · Step-by-step replacement with a web application recommended	840–1,080 PD	36–42 months	50–60%	Recommended (after option A)
D · Industry software for wholesalers	high (plus licences)	15–23 months	approx. 20%	Secondary – high customisation needs

Effort and duration estimated without AI. Our AI-assisted development reduces time and cost by the range shown; the roadmap already includes AI.

Recommendation

We recommend handling the obligations and critical risks immediately (option A), then replacing MERKUR step by step with a web application (option C). The e-invoicing service comes first, built as part of the new architecture. Securing the developer's knowledge while he is available is crucial.

PHASE	TIMEFRAME	CONTENT	EFFORT
Phase 1: Obligations and security	Months 1–3	E-invoicing service by 31 December 2026, shield the database, Firebird 5 and Windows Server 2025, Git and build in-house	35–45 PD
Phase 2: Knowledge and foundation	Months 3–6	Document business rules with the developer, interface layer (API) on top of the database, test cases from real documents	60–80 PD
Phase 3: Modular replacement	Months 6–20	Master data and prices, sales, purchasing, warehouse with mobile data capture in the browser	280–350 PD
Phase 4: Migration and shutdown	Months 20–24	Move to PostgreSQL, end parallel operation, archive and switch off MERKUR	40–55 PD

All four phases: 415–530 PD over approx. 24 months with AI – approx. 895–1,150 PD without AI. Accuracy ±25%. Phase 1 must be completed by 31 December 2026.

Next steps

1. Close the database port immediately – this needs no project effort
2. Commission phase 1 – e-invoicing must work from 1 January 2027
3. Agree the knowledge transfer with the current developer by contract
4. Fixed-price proposal for phase 2; final decision on option C after phase 2

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