ECKARDT FRITZ

VBA · Access · Excel · Power Query · SQL · Data Warehouse · SharePoint · PowerShell

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PROFILE

For more than 30 years I have been building and modernising data-driven applications in the Microsoft environment. My focus is the orderly route from organically grown Excel and Access landscapes to Power Query, SQL or a data warehouse: analysis, refactoring, modularisation.

What sets me apart from pure VBA developers is the architecture. I design solutions to last: clear layers, separation of data and evaluation, configurable rather than hard-wired processes, safeguarded by test automation and binding coding guidelines. My aim is that you carry on without me: after the engagement your organisation works with the solution itself, adapts it through configuration and develops it further where needed. In current engagements I use Claude and GitHub Copilot productively to analyse large, historically grown code bases. Fifteen years in general management also taught me what a report is ultimately needed for.

Sector experience in banking and financial services, public administration, retail and wholesale, mail order, publishing and print, pharmaceuticals, mechanical engineering, ICT, staffing services, utilities, fashion and sporting goods. Several engagements running four to eleven years.

AREAS OF FOCUS

Modernisation of existing applications Code review, refactoring, reverse engineering and modularisation of grown VBA, Excel, Access and PowerShell applications, together with documentation the team can rely on.

Automation Recurring processes in Excel, Access, SharePoint and system administration. Interfaces to ERP, SAP BW/BO, ODBC, CSV and XML.

Reporting and data warehousing From the single evaluation through to automated loading into PostgreSQL or MS SQL, including stored procedures, views and safeguarding of data quality.

Software architecture Structures built to last rather than quick one-off solutions: separation of layers, separation of data and evaluation, configurable processes, reusable modules. This is what allows an application to be run and adapted in house without a developer once the project ends.

Quality assurance Test automation with Pester, BDD, unit, integration and system tests, plus binding coding guidelines.

AI-assisted development Productive use of Claude and GitHub Copilot in VBA and PowerShell development, particularly for the analysis and modernisation of large, historically grown code bases. Version control with Git and GitHub.

Knowledge transfer Onboarding and training of teams, remote and on site, in German, English or French. Enabling business departments and fellow developers to work independently in the Access environment, including the transfer of my own coding and architecture standards.

TECHNOLOGIES

Languages and automation VBA · PowerShell (incl. PowerShell Studio) · SQL · Power Query / M · AutoIt3 · Python · VBScript · RegEx

Microsoft platform Excel, Access, Word, PowerPoint, Outlook (up to Microsoft 365) · SharePoint 2007 to SharePoint Online · Teams · Power Pivot · Power BI (DAX) · MECM

Databases MS SQL · PostgreSQL · Firebird · MS Access · Cognos TM1 · MySQL

Interfaces and integration SAP BW via SAP BO · ODBC · XML · CSV · REST · ETL · XRechnung / e-invoicing

Methods and quality Software architecture and coding guidelines · clean code (DRY, KISS, SRP) · OOP, OOA, OOD · MVC, MVP, SOA · test automation with Pester · BDD · unit, integration, system and black-box tests · smoke, functional and regression tests · Scrum, Kanban · Jira · MS Project

Version control and AI tooling Git · GitHub · Claude · GitHub Copilot · Microsoft 365 Copilot

Further experience ERP: JTL, SAGE-KHK, Axapta · CRM: Microsoft CRM, Siebel · CMS: WordPress, TYPO3 · commerce: XT-Commerce, eBay/Afterbuy

REFERENCE PROJECTS

Current engagements

since 02/2024 — Public-sector IT service provider, critical infrastructure

PowerShell and VBA developer · Public sector, 1,000 to 5,000 employees · client name on request · engagement running to 10/2026 · security clearance for the critical infrastructure sector successfully completed

Support of client administration for around 17,000 workstations through application development and automation. Development of an MECM provisioning tool for single and bulk records via CSV, including plausibility checks. Code review, refactoring and reverse engineering of existing scripts towards modularisation, supported by Claude and GitHub Copilot. Build-up of test automation with Pester, complemented by smoke, functional and regression tests. Version control with Git.

Outcome: Ten previously manual procedures turned into configurable, low-maintenance standard processes for around 50 users. Provisioning a device now takes roughly half as long, and the administrative effort fell by around 90 per cent.

PowerShell · PowerShell Studio · VBA · RegEx · Pester · MECM · Git · Claude · GitHub Copilot

since 11/2023 — WinTourS AG, software for tour operators

MS Access developer · 10 to 50 employees

Ongoing adaptation of the application and its reports to client requirements, on a complete ERP system with more than 100 users and over 100 objects. Code review, refactoring and reverse engineering followed by modularisation to clean-code principles, supported by Claude and GitHub Copilot in analysing the historically grown code base.

Outcome: Since the modularisation, new reports can be produced considerably faster and existing ones adapted without touching the application logic.

MS Access · VBA · SQL · Claude · GitHub Copilot

ongoing — E-invoicing and XRechnung in Access applications

Development, various clients

Implementation of the German e-invoicing obligation inside existing Access applications, independently of the original vendor. Development of an XRechnung tool for Access and of an ERP tool with integrated e-invoicing, the latter currently in development.

MS Access · VBA · SQL · XRechnung · e-invoicing

since 01/2017 — Access and Office applications, various clients

Development, maintenance and modernisation on individual assignment

Long-running support of smaller business applications alongside self-contained individual assignments:

- Parts database of an automotive manufacturer with tree-view navigation across the parts structure
- Adaptation of delivery-note and invoice generation in a legacy ERP system
- Ongoing support of the Access database of a fulfilment provider, most recently error analysis and connection of a parcel carrier via a new REST interface (2026)
- Adaptation of several databases for Cologne Tourism, including automatic linkage to DATEV, role-based user control and an administration area
- Document generator for contract documents in the insurance sector, producing formatted Word documents from configurable text modules and administered by the user (DVIdee / VGH, 2021)
- Extension of the user access control of a Spanish-language Access database
- PowerPoint add-in with extended functions, and fully automated population of Word templates from Excel

MS Access · Excel · Word · PowerPoint · VBA · SQL · HTML

Completed projects

09/2024 – 12/2024 — Winkler AG, wholesale of truck parts

Scripting and automation developer · Automotive supply, 500 to 1,000 employees

Design, implementation and documentation of an application for automated access to online catalogues, in use by around 50 users across several German locations. Settings and credentials are managed via INI files so that the business department can make changes without developer involvement.

Outcome: Five separately maintained scripts were consolidated into a single configuration-driven launcher. Maintenance effort fell by around 80 per cent, and further catalogues can be added through a configuration file.

AutoIt3

06/2023 – 12/2024 — Stadtwerke Güstrow, municipal utility

Cost calculation and reporting · Energy and utilities, 250 to 500 employees

Analysis of the existing cost and reporting structure. Determination and calculation of hourly rates and overhead surcharges within a full absorption costing model covering around 400 cost centres across seven divisions. Creation of the tools and the accompanying documentation.

Outcome: Hourly rates can be recalculated in house at any time on the basis of the complete management accounts, without external support.

Excel · Power Query

02/2021 – 03/2024 — AVJS, staffing and temporary labour services

Build-up and maintenance of a data warehouse · 500 to 1,000 employees

Advising the management on the structure and composition of the evaluations. Design and development of an Excel add-in for the standardised filing of ERP evaluations ahead of loading into the data warehouse. Build-up of the table structure, stored procedures and views, automated data loading, migration from Firebird SQL to PostgreSQL. Safeguarding of data quality, accompanied by training on Power Query and Power Pivot.

Outcome: 20 report objects from 30 branch offices converge in a central data warehouse feeding a single management dashboard. Reporting time fell by around 80 per cent.

PostgreSQL · Firebird · Power Query · VBA · Excel add-in · PowerShell · ETL · BDD

11/2012 – 12/2023 — Edeka, Minden, food retail

Access databases and Excel tools

Eleven years of continuous analysis, design and extension of two databases for around 15 users. Migration and refactoring of the Access applications, user-oriented menu control for staff without an IT background, flexible input masks. Automated import from SAP and further sources, menu-driven reporting with direct handover to Excel and the document management system. Separation of

evaluation and data into distinct databases. Preparation of functional specifications and documentation, user support including a hotline.

Outcome: Considerably simpler handling in day-to-day operations, extended reporting, and the business department can make most adjustments itself.

MS Access · Excel · VBA · SQL · SAP · WCF · XML · OOD · MVP · BDD

11/2019 – 12/2023 — DB Systel, IT subsidiary of Deutsche Bahn

VBA developer and DevOps, workforce planning tool

Consulting, further development and defect resolution on a workforce planning tool in Excel with Cognos TM1 as the back end, in use by around 50 users. Operation of five instances including watchdog, backup and system checks via batch and PowerShell scripts. Introduction and optimisation of consistent logging as the basis for monitoring. Development of the TI processes and Power Query evaluations. Preparation of coding guidelines including software architecture. Kanban with Jira.

Outcome: The number of incidents involving an abort and subsequent recovery fell from several per month to roughly one per quarter.

VBA · Cognos TM1 · PowerShell · Power Query · Jira · Kanban

12/2020 – 07/2023 — Deutscher Fachverlag, specialist publisher

Migration of Access databases to Microsoft 365 · Media and publishing, 50 to 250 employees

Code review and refactoring of the existing databases, migration from a wide range of Access versions to Microsoft 365 in 64 bit, simplification of the structures and clean-up of the legacy estate. Advising the client on which measures are worthwhile on a cost-benefit basis. Build-up of a template database as a blueprint for further migrations. Safeguarded by unit, integration and system tests.

Outcome: 20 databases migrated. The template database has since served as the blueprint for all further conversions in house.

MS Access 365 · VBA · SQL · BDD

06/2022 – 08/2022 — JC NewRetail, holding company of the Peek & Cloppenburg group

Build-up of a SharePoint portal · Fashion retail, 5,000 to 10,000 employees

Design and implementation of a central SharePoint Online portal with 30 site collections for fashion retail. Development and implementation of a role-based permission concept, rolled out via PowerShell.

SharePoint Online · PowerShell

08/2017 – 05/2020 — Aldi Süd, via Capgemini, Ratingen

VBA specialist, planning tools

Advising on requirements analysis from a developer's perspective, preparation of presentation patterns and technical specifications. Lead developer of three Excel planning solutions comprising four tools in total, accompanying an S/4HANA implementation, with automated import and export and automatic connection to SAP BW via SAP BO, deployed in the national and international operating companies. Build-up of test automation and continuous refactoring. Preparation of coding guidelines including software architecture. Delivery of developer workshops. Project languages German and English.

Outcome: All tools were new developments and passed user acceptance testing in full.

VBA · SAP BW/BO · OOP · MVC · SOA · ETL · Scrum · Jira · BDD

03/2014 – 06/2018 — Deutsche Bank, Frankfurt

Access and SharePoint developer

Analysis, design and refactoring of a central database serving as the back end that automatically administers the lists of ten SharePoint sites. Support and improvement of the import tool from Excel and Access into MS SQL. Design, creation and administration of the SharePoint sites including workflows, permission concept and permission management, with four years as co-user-admin of

several site collections. Preparation of documentation as well as security and user concepts. Agile development with monthly changing requirements in a team of ten. Collaboration with colleagues across several continents, onboarding and training of new team members. Alongside this, the specification of an inventory database. Project languages German and English.

SharePoint · MS Access · Excel · MS SQL · VBA · PowerShell · SOA · ETL · BDD

Further completed projects

2013 – 2014 · Unilever, Hamburg and Stockholm — Migration of a finance database from Access 2003 to 2010, refactoring of the principal queries, adaptation for use in several countries including English translation, training of staff in Stockholm.

2012 · pbb Deutsche Pfandbriefbank, Munich — Reconciliation database during an SAP migration: automation, refactoring and optimisation of the existing Access application, documentation for internal audit and external auditors.

1998 – 2010 · Retail and mail order — Management information system in Access with ODBC connection to the ERP system, decentralised article data management with interfaces to ERP, catalogue, MIS and web shop, Access-based data warehouse for purchasing analysis and competitor monitoring.

PROFESSIONAL DEVELOPMENT

Around 70 specialist training sessions between 2024 and 2026, more than 40 of them in 2025 and 2026. Main areas:

- **AI, Copilot Studio and agent architecture** — 16 sessions
- **Microsoft 365 security, Entra ID and Zero Trust** — 15 sessions
- **Python** — 11 sessions
- **PowerShell** — 9 sessions
- **AI-assisted software development** — 5 sessions

In addition, the daily productive use of Claude and GitHub Copilot in VBA and PowerShell development.

Certification: Data Protection Officer under the GDPR and the German Federal Data Protection Act, with examination, 2020.

EDUCATION AND LANGUAGES

Studies in Industrial Engineering and Management, specialising in corporate planning, University of Karlsruhe (TH), 1987 to 1994. Intermediate diploma 1989. Exchange studies at INSA Lyon, France, 1991/92.

Language	Level
German	native speaker
English	business fluent
French	business fluent
Spanish	basic knowledge