Dominik Ottenbreit

Technology, AI and Cyber Security

Based in western Germany, with Frankfurt the closest major city. German citizen.

Profile

Technology executive. For 17 years I have built one connected system at Newmatik, the electronics manufacturer I run and co-own: the hardware we design, the factory that makes it, the software that runs it, the AI that automates it and the security that protects it. As Principal Consultant at Modali, I bring that experience to other companies as they transform.

Expertise

Design hardware and firmware
Lead interdisciplinary teams developing hardware, software and firmware for internationally renowned companies in Europe, Asia and the United States, from circuit design and embedded firmware through EMC and compliance to product launch.

Make electronics
Run electronics manufacturing with more than 100 people in Germany and Romania, from SMT assembly and inspection to test and box build, under an ISO 9001:2015 system that passed automotive, medical and aviation audits. Developing a modular, AI-native SMT prototyping line.

Run the business on software
Led two ERP implementations and built a custom MES with live traceability and a paperless shop floor, along with platforms for real-time component sourcing across suppliers and for preparing PCB manufacturing data.

Automate with AI
Put AI into daily operations: a self-hosted AI coworker embedded in ERP and helpdesk workflows, computer vision for optical PCB inspection, and agents backed by evaluation frameworks.

Secure the whole chain
Protect every layer, from firmware to factory network to cloud, with threat modeling, penetration testing, separation of machines from office IT, incident response and secure boot. Reverse engineer hardware, firmware and protocols for security research, interoperability and legacy replacement. Experienced with the Cyber Resilience Act and defense supply chain requirements.

Hardest problems

Built our own factory when construction stopped
When the COVID-19 pandemic shut down the construction industry, we founded our own construction company and built Newmatik's new production facility ourselves.

Cut delivery time from 50 days to 5
Took full-turnkey production, from engineering and sourcing to finished boards, from 50 days to as little as 5. This took a transformation of the whole business: deleting processes and management layers, dissolving departments into production cells, and automating everything that could be automated, with our own MES and a paperless shop floor.

Build instead of buy
Where off-the-shelf tools fell short, we built our own: optical PCB inspection, production test equipment, factory software and now a modular, AI-native SMT prototyping line.

Quadrupled revenue and made the company highly profitable
Turned a small regional business into a company that delivers worldwide, by repositioning it toward rapid prototyping and full-turnkey production.

Experience

Newmatik GmbH
Electronics manufacturing and technology, formerly ESO Electronic Service Ottenbreit GmbH

CEO and Co-owner — 2014 to present
Director of Business Development and Technology — 2009 to 2014

Grew the customer base from 60 regional customers to more than 300 worldwide.

Built the management structure for more than 100 employees across two countries, secured financing on improved terms and evaluated three M&A offers.

Consolidated PCB sourcing from more than 30 vendors to six strategic partners after supplier audits in China and Europe.

Modali Consulting LLC
Advisory, AI and data engineering

Principal Consultant — 2022 to present

Lead the implementation of Modali's unified consulting platform and its AI assistant for procurement systems.

Advise clients on target operating models, technology roadmaps, procurement transformation and procurement platform implementation.

Deliver AI and data work, from readiness assessments and use-case portfolios to data engineering, cloud architecture and production deployment.

Selected clients

Automotive	Ford, TRW, Audi, Valeo
Industrial	Panasonic, Siemens
Aerospace and defense	Lufthansa, Thales, Bombardier, Rheinmetall
Further sectors	Medical, energy, public sector, financial services

Education

M.Sc. Management of Business Processes
University of Applied Sciences Mittelhessen (THM), 2011 to 2013

B.Sc. Applied Computer Science and Digital Media
Bielefeld University, 2006 to 2011

Languages
German (native), English (native-level)

Technology

Design	Altium, KiCad, STM32, ESP32, Zephyr, FreeRTOS, C, C++
Make	SMT, AOI, X-ray, test engineering, IPC-A-610, IATF 16949 practices
Run	ERPNext, Frappe, Ivalua, Python, TypeScript, Vue, C#, PostgreSQL, Cloudflare, AWS, Azure
Automate	Claude, OpenAI, MCP, agents, RAG, PyTorch, computer vision, NVIDIA Jetson
Secure	Threat modeling, penetration testing, zero trust, secure boot, signed firmware, Ghidra