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AI by design

SUCCESS STORY

SAIE · DEPLOYMENT CASE STUDY · CRITICAL INFRASTRUCTURE

Secure AI deployment in critical infrastructure

LW Bogdanka



SOFTWARE

TWIN:DESK + PROXY:AI + CDF Platform

2	**100%**	**0**	**100%**
months - deployment time	EU AI Act compliance	data sent outside the organization	answers with source citations

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CLIENT

LW Bogdanka

Enea Group

SECTOR

Energy

critical infrastructure · listed on the Warsaw Stock Exchange

DELIVERY TIME

2 months

from kickoff to go-live

PROJECT OBJECTIVE

Design, delivery, installation, configuration and transfer of ownership of an IT system, together with the hardware required to process, analyze and search text data

METHODOLOGY

CDF – Cognitive Deployment Framework

AI system compliance documentation for applicable law, produced according to CDF

SOFTWARE AND SERVICES

- AI system - TWIN:DESK, PROXY:AI and CDF Platform software
- Technical documentation with instructions in Polish
- Training for administrators and end users
- System integration with the client's IT infrastructure
- Hardware - enterprise-class AI servers

CHALLENGE

Bogdanka manages extensive collections of technical and operational documentation gathered over the years in various formats - from PDF and DOCX files to scans. Finding the right information required tedious manual searching of archives, which took up specialists' time and increased the risk of missing important content

At the same time, as a listed company operating in the critical infrastructure sector, Bogdanka could not use popular cloud-based AI tools - each of them would mean transferring strategic data outside the organization's perimeter. The challenge was therefore to give employees semantic knowledge search while maintaining full data sovereignty

PROJECT OBJECTIVE

Delivering and launching AI applications that enable secure, internal (on-premises) processing, indexing and searching of documents using large language models in a RAG architecture. Key requirements:

01 Processing diverse formats of technical and operational documentation - PDF, DOCX and scans

02 Semantic search based on understanding the context of the query, not just on keyword matching

03 Precise answers with verifiable citations of source documents

04 Operation in a fully closed on-premises environment, with no risk of data leaking outside the organization

SOLUTION

The solution is based on the TWIN:DESK and PROXY:AI applications and the CDF methodology. It runs entirely on the client's server infrastructure and consists of five interoperating components:

01 Document processing module
File import, format parsing, intelligent chunking (splitting text into logical fragments) and metadata handling

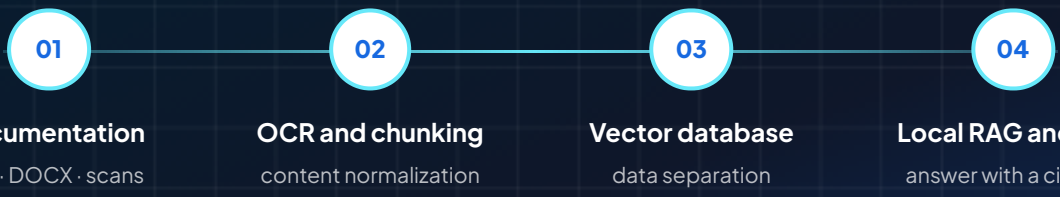
02 OCR system
Processes difficult scans and document images - about 80% of the deployment corpus - normalizing them and extracting text for indexing

03 RAG orchestration
Building a vector knowledge base, the retrieval pipeline, result reranking and topic assistants with mandatory source citations

04 LLM inference server
Language model compute running directly in the client's isolated server infrastructure

05 Vector database
High-dimensional embeddings, fast semantic search and strict data separation by site and department

KNOWLEDGE FLOW



From raw documentation to answers with verifiable citations - entirely within the client's infrastructure. The deployment was completed in two months using the CDF (Cognitive Deployment Framework) methodology

SECURITY AND COMPLIANCE

Fully on-premises model

Processing and inference run only locally - no information goes to external servers or cloud providers

Strict data separation

Query filtering at the vector database level prevents unauthorized teams from accessing knowledge

Identity management

Active Directory integration, encrypted HTTPS transport (internal CA) and detailed audit logs of all queries

RESULTS

What changed at LW Bogdanka

Faster access to knowledge

A drastic reduction in the time previously spent searching documentation manually

High level of security

Full isolation of the company's know-how and resilience to unauthorized access

Better operational decisions

Employees receive concise summaries with references to specific pages of source documents, which reduces the risk of error

Scalability

The applications are ready to expand to more departments and take in new documents without loss of performance

CLIENT'S VOICE

When defining the project, we were looking for a partner with the technological capability to develop a system in line with our assumptions. allclouds.pl is a company that not only specializes in AI systems for business and has ready-to-deploy products, but also provides support in AI risk management.

The deployment was carried out based on the CDF methodology, which gave us additional confidence that the solution was being built in line with the requirements for the responsible and secure use of AI.

The product itself offers great flexibility and transparency in building and managing the knowledge used by the model. Its intuitive operation means that developing it and using it every day do not require advanced technical knowledge.

Thanks to the professionalism and experience of the allclouds team, **we achieved our goals in much less time than we had originally anticipated.**

Paweł Janowski

Chief Foreman, Underground Electrical Equipment, LW Bogdanka

ABOUT THE CLIENT

LW Bogdanka is one of the leaders among Polish hard coal producers, distinguished by high efficiency and strong financial results

As one of the **most modern** mines in the country, Bogdanka has for years invested in sustainable development, innovation and technological optimization

The company is part of the Enea Group and operates deposits in the Lublin Coal Basin, supplying thermal coal mainly to the power sector in eastern and north-eastern Poland

As a **company listed on the Warsaw Stock Exchange**, it is subject to strict corporate regulations and in all digital deployments emphasizes the highest standards of security, identity management and data sovereignty

ABOUT THE CONTRACTOR

allclouds.pl sp. z o.o. is a Polish technology company that builds sovereign AI systems for businesses and institutions. Its offering includes:

TWIN:DESK - a multi-user web application that provides a secure, everyday environment for working with documents and company knowledge using AI assistants

PROXY:AI - a system for secure, controlled access to LLMs in line with adopted security policies, centralizing oversight of AI

allclouds.pl also created the deployment methodology **CDF (Cognitive Deployment Framework)** - a structured plan that takes an organization from initial diagnosis to full operationalization of AI systems, bridging the gap between legal requirements (including the EU AI Act, DORA, NIS2 and ISO/IEC 42001) and technology practice. The company is one of the first in Poland to hold **ISO/IEC 42001** certification