

## Architecting AI-enabled, enterprise-scale process orchestration and automation



### Key Benefits

- Fully automated 75% of physical mail delivery
- Using agentic orchestration to review and route 25% of undeliverable mail
- Enhanced knowledge work and service quality
- Reduced errors
- Agility to orchestrate AI-infused processes

### Camunda Product

Agentic Orchestration

### NORD/LB tests how Camunda's agentic orchestration handles complicated exceptions to automated processes

Norddeutsche Landesbank (NORD/LB), a major publicly owned wholesale bank, is committed to creating true value for its corporate, institutional, and public sector customers. A leader in the region, they are constantly modernizing their enterprise technology to improve operational efficiency and provide personalized customer experiences.

Using Camunda, NORD/LB built a Workflow Automation Center of Excellence to streamline and scale complex workflows from end to end across the organization. The platform integrates with and orchestrates work across multiple systems and technologies like RPA, IDP, and machine learning to ensure work and data are synchronized and processes comply with industry regulations.

As AI-based tools and agentic capabilities evolve, NORD/LB is continuing to look for ways to apply maturing AI technologies to further improve their employee and customer journeys. “Generative AI started becoming part of tools we use every day,” explains Dr. Leander Fiedler, Automation Lead at NORD/LB. “So, we started to focus more closely on how we could use AI across the enterprise.”

### The challenge: Developing a centralized approach to orchestrating and automating AI-augmented processes compliantly

It soon became clear that a centralized approach was necessary to enable the company to use AI wherever possible. So, the bank established an internal competency center for AI incorporating organizational, regulatory and technological structures aiming at broadly adopting and fostering ideas how to use AI effectively.

The first task of the center's team was evaluating the implementation of generative AI and other forms of AI within NORD/LB's operational applications. Focused on back-office processes, the center also prioritizes tech and governance frameworks needed to make AI-augmented processes a reality. Ultimately, they are seeking ways to use AI to boost human experience and maximize the impact of human expertise.

### The first project: Operationalizing AI with smart chatbots

The team began to incorporate GenAI by introducing chatbots that were only accessible to internal employees. This created a safe space to test how the AI responded to business-related questions in NORD/LB's operational environment. “As a bank we are highly invested in data security. This way we unlocked GenAI capabilities while keeping our data safe.” says Leander. More than 3,000 NORD/LB employees used the chatbots to prompt customized responses related to task work

Gradually, the team added business-related functions to the chatbots. For example, a user could ask a chatbot to locate and identify certain referenced information within a document, and the chatbot would highlight sources from the document in its response.

Eventually, the chatbots evolved into a GenAI platform with integration patterns. The overall goal of the chatbot project was accelerate AI adoption at NORD/LB to unlock its full potential. Today we are building a GenAI platform with integration patterns allowing AI agents to interact with our data in a responsible and compliant way.

“We got smarter, and the bank got smarter using chatbots,” says Leander, “but we learned we can’t use chatbots for everything. So instead of adding AI everywhere, we learned it’s important to rethink processes from end to end and design them with today’s knowledge.”

## **The second project: Using agentic orchestration to sort and route complicated pieces of physical mail**

The team is testing a more targeted application of AI in a mail sorting project. The bank still receives and processes approximately 4,000 physical letters each month. Automating the intake and routing of that mail can be a complex process. NORD/LB uses a combination of Camunda, IDP, and other tools to digitize and orchestrate mail sorting. The team is turning a formerly fully manual process into an automated one that routes mail correctly about 75% of the time based on business rules. The digitized correspondence is also automatically saved into the bank’s archives.

The challenge is the remaining 25% of mail that cannot be automatically routed because essential information is missing or does not match the customer record. To help with routing recommendations, **the team is testing an agentic orchestration solution** that uses AI to summarize the content of the letter and an LLM-connected agent that selects from a group of defined tools to gather and analyze information and make a recommendation.

“We are targeting this 25% that cannot be automated because they require a lot of knowledge and manual labor,” explains Leander. “The idea is to preserve knowledge by binding it to an AI agent while reducing manual labor in the process.”

The way the agentic orchestration solution is designed, an IDP tool extracts data from the letter. A specific prompt passes the extracted data to an LLM (Claude Sonnet 4 connected via Amazon Bedrock). Operating within Camunda’s ad hoc subprocess, the agent can automatically access different data sources and defined knowledge bases, then use its own reasoning and its own parsing to determine where the letter should be routed. As a result, a letter that was previously very difficult to deliver gets to where it needs to go.

## **The outcomes: Understanding the parameters of applying the right AI solution to the right process**

Through these stepping-stone projects, NORD/LB’s team is developing a better understanding of the skills and technology they need to expand their use of AI to other business processes as they continue to evolve, automate, and orchestrate AI.

According to Leander, what they’ve learned is: “We should consider different use cases for AI, especially for agents, assistive AI, or predictive AI. It’s important to consider where and when to put AI into the process, how to use AI most effectively, and when to allow agents control over parts of a process. As an example, we found that anywhere the input is unexpected or the output is hard to predict, or where a lot of manual labor is required is a great use case for testing AI.”

Of course there is a learning curve during this complex endeavor. Platforms like Camunda offer simplification when it comes to designing agent-based, automated processes in BPMN. As Leander explains, “When we started using Camunda’s agentic features, we relied on Camunda experts who knew the modeler. For someone like me who was less experienced in building agents, it was easy to model processes and understand where the agent should be in the process and how it works.”

## **Why Camunda: How Camunda is supporting NORD/LB’s mission to operationalize AI**

Camunda’s flexible platform for process orchestration and automation plays an important part in NORD/LB’s operations. “There is a strong interaction between AI and automation,” states Leander. “We tackle automation with a mix of technologies. The ability to integrate with other tools, applications, and systems is integral to our approach.”

As Leander describes, “We currently offer a mix of specialized technologies ranging from modern UI and UX patterns and libraries, portals for interacting with customers and internal experts, over integration layers for modern and legacy applications, task automation using RPA, to machine learning and document intelligence. Camunda adds business orchestration to the mix, allowing us to fuse these technologies together to create truly

digitized processes.

With Camunda's agentic orchestration we obtain the ability to integrate agents seamlessly into digital processes giving us the ability see what actions they take in real time."

The ability to truly leverage a mix of composable technologies is enabling NORD/LB's team to rethink its processes. The bank is now looking for opportunities to expand their use of AI and agentic automation, possibly orchestrating processes and other agents within the bank's end-to-end enterprise-scale processes.