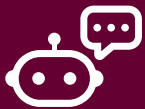




## KEY FACTS



**Cut registry office call volume by 80%**



**3,500 calls per month** managed fully automatically



**65% automation rate** with no human involvement

### Industry:

Public Sector, civil registry office in a major German city

### Challenges:

- Call volumes far exceeding staff capacity
- Long wait times and poor phone access for citizens
- Constant disruption of in-person services by incoming calls
- Complex, fragmented web content requiring heavy preparation for automation

### Products:

NiCE, Cognigy, Microsoft Azure OpenAI (GPT-4), Azure OpenAI Cognitive Services (Speech-to-Text / Text-to-Speech)

## INTRODUCING A VOICEBOT AT A MAJOR GERMAN CITY'S CIVIL REGISTRY OFFICE

### OVERVIEW

The civil registry office in a major German city was facing a **classic resource challenge**: too many calls, too few staff and not enough time to support citizens on site. Long phone wait times, a stretched team and fragmented information across the city's website defined day-to-day operations.

Damovo was commissioned to design and implement an AI-powered voicebot based on **NiCE and Cognigy**. Since then, the bot has handled all incoming calls to the registry office, fully automated responses to citizen enquiries and efficiently routing callback requests to the appropriate team members.

**The result:** call volume has been reduced by approximately 80%, enabling staff to prioritise in-person services and manage callback requests more efficiently.

## STARTING POINT

The civil registry office faced **high daily call volumes** while operating with **limited staff**. Employees were caught in a constant dilemma: answer the next call or assist citizens in person. Doing both simply wasn't feasible.

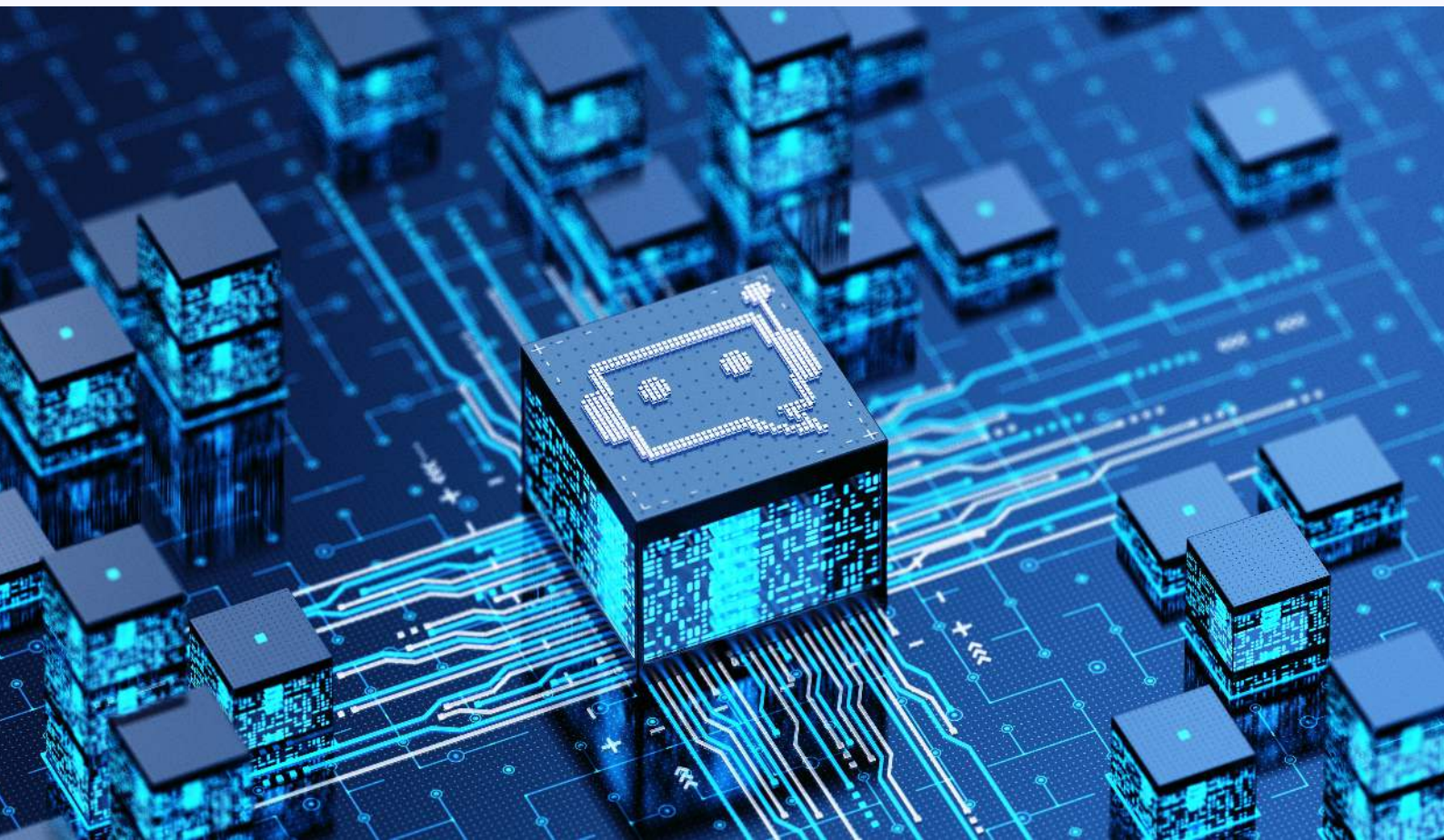
The impact was clear: phone queues continued to grow, **citizens faced long wait times**, and those who did get through spoke to staff under significant time pressure. As a result, the quality of telephone service declined - not due to a lack of commitment, but because of structural constraints..

Adding to the challenge, relevant information was available on the **city's website** but was **difficult to navigate**, partly redundant and not always clearly structured. Many citizens searched for answers online but still ended up calling because they couldn't find clear, reliable information.

## OBJECTIVES

The city defined **clear requirements** for the new solution: eliminate phone wait times, provide lasting relief for the team and ensure the bot is available regardless of the opening hours.

**Answer quality was the top priority.** The bot was required to rely exclusively on validated, registry-specific knowledge, with no use of generic model knowledge and no hallucinations.



## IMPLEMENTATION

Damovo implemented a **voicebot based on NiCE and Cognigy** that handles all incoming calls to the civil registry office fully automatically. Previously, multiple separate phone numbers existed for different topics, that have now been consolidated and routed through the bot.

The technical architecture combines the **Cognigy orchestration platform** with **Microsoft Azure OpenAI (GPT-4) as the large language model**, as well as **Azure Cognitive Services** for speech processing in both directions. Both cloud services are integrated into the platform via APIs.

Incoming calls are received through the existing telephony system and routed to the voicebot using **deflection routing**.

The bot independently handles enquiries on topics such as marriage, birth registrations, certificates, deaths, as well as name and gender registrations, based on an integrated, structured knowledge base. For this initial use case, integration with internal city systems was deliberately avoided. The setup is intentionally lean, which is exactly what makes it scalable.

If a citizen requests a callback, the bot captures their name and phone number, automatically generates a call transcript with a summary, and sends both via email to the registry office's internal inbox. Staff then decide when to return the call. Direct call transfers for follow-up enquiries during office hours were explicitly not required. For this functionality, the **bot was integrated with the municipal IT provider's email server**.

Damovo took **full project ownership**, from discovery workshops and solution design, right through to configuration, knowledge base development, LLM, TTS and STT integration, as well as testing, training, go-live and documentation.

## IMPLEMENTATION PROCESS

The project began with a **discovery workshop**, where the requirements, scope and approach were defined jointly with the client. This was then followed by functional and **technical workshops**, as well as a **detailed implementation plan**.

A key step was the **development of the knowledge base**. The existing web content of the civil registry office could not be used as it was. It needed to be reviewed, structured, cleaned up and transformed into clearly defined knowledge modules to minimise hallucinations in the voicebot. This **content curation** was carried out by the registry office staff themselves, as they hold the necessary domain expertise, however Damovo closely supported this process.

**Configuration and knowledge base development followed an iterative approach:** testing, incorporating feedback and continuous improvement across multiple cycles until an answer quality of 95-98% was achieved. Only then was the bot released to citizens.

Today, **all registry office phone numbers are routed through the voicebot**. Additional departments are already preparing for rollout, and a city-wide tender for a unified AI platform is underway.

## CHALLENGES

Two areas had a particularly strong impact on the project.

### Organisational and content-related challenge

The effort required to build and maintain the knowledge base was initially underestimated by the client.

Registry office staff were responsible for curating content, learning a new tool, participating in regular meetings, and continuously testing the bot - all alongside their day-to-day responsibilities. This required **persistence and close support** from Damovo throughout the entire project phase.

### Technical challenge

At the beginning of the project, a structured, NLU-based approach was used to effectively eliminate hallucinations and meet the city's strict quality requirements.

However, it became clear that the **use case was too open for such a tightly structured setup**. The solution was therefore shifted to a more flexible, unstructured dialogue model enabled by an LLM.

Citizens can now ask the bot questions on all registry-related topics freely, regardless of the order or way in which they raise them. The **transition to a fully LLM-based model** proved to be the right decision and was implemented without any significant delays.

Further technical refinements included optimising **barge-in behaviour** so citizens can interrupt the bot when needed, **bridging short response delays** in the model's processing, and **restricting the LLM's knowledge strictly** to registry-specific municipal content.

In both cases, operations for staff continued without interruption throughout the entire implementation.



## RESULTS

Since go-live, the improvements have been clear in both measurable results and day-to-day operations:

- 80% reduction in call volume handled by the team
- 3,500 calls per month now handled fully automatically
- 65% automation rate, with citizens receiving answers from the bot without human involvement
- Around one third of calls result in a callback request, with transcripts and summaries delivered directly to the team's inbox
- Callbacks are typically completed within three working days
- Phone wait times for citizens have been eliminated, as the bot is available instantly, 24/7
- Staff can decide when to return calls, allowing them to work in a focused and prepared way without interruptions
- The team now operates in a significantly more relaxed environment and can fully concentrate on in-person citizen services

The solution has proven highly effective as a pilot and the city is already preparing the next phase. What began in the civil registry office is now forming the foundation for a broader digital citizen services strategy.

## ABOUT DAMOVO

Damovo is a global technology service provider that supports organisations worldwide on their digital transformation journey. Its broad portfolio includes solutions in the areas of cybersecurity, enterprise networks, unified communications and collaboration, contact centres, and global managed services.

With over 600 dedicated employees, Damovo operates across Europe, the Americas and the Asia-Pacific region, providing global support in more than 150 countries.

## LET'S CONNECT

Explore how Damovo can transform your organisation.

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