

iD17 - Inventory Availability an AI Case Study



Executive Summary

iD17 is a boutique home staging and interior styling company that specializes in transforming properties for sale with a focus on personalized, stylish design solutions. Facing challenges associated with traditional, manual processes for inventory checks, booking management, and client interactions, iD17 partnered with a trusted AWS partner to deploy a generative AI chatbot solution. This solution utilizes AWS-managed services to streamline operations, integrate real-time inventory data, offer personalized staging suggestions, and automate scheduling processes.

Customer Challenge

As iD17's reputation grew, it encountered several operational challenges that are common in the traditional approach to business management:

- **Manual Processes:** Administrative tasks such as checking inventory, making recommendations, and managing bookings were time-intensive, demanding significant staff hours.
- **Limited Availability:** The manual nature of these processes sometimes led to delays, causing missed opportunities for clients needing immediate responses on availability and suggestions.
- **Scalability Concerns:** With increasing demand, the scalability of the existing manual system became a concern, as expanding the workforce was not feasible without impacting operational efficiency.
- **Customer Experience:** Real estate agents and homeowners often experienced sluggish response times, impacting the overall customer satisfaction and engagement.

To overcome these issues, iD17 sought a technology-driven solution that would not only automate these processes but also impart quantitative improvements in operational and financial performance.

About iD17



Established in 2017, iD17 has quickly become known in the real estate market for its innovative approach to home staging. The company offers a comprehensive range of services including interior styling, real estate staging, showroom styling, and even event styling.

In addition, iD17 provides a distinctive handyman service, known as “Klussen in Style”, which brings professional precision to interior projects.

The business' ethos is built on delivering tailor-made solutions that combine artistic design with functional efficiency, ensuring that spaces are both visually appealing and market-ready.

Partner Solution - Context

ClouDar, as a trusted AWS partner, designed and implemented a chatbot solution tailored to iD17's business needs. Key elements of the solution included:

AWS-Powered Infrastructure

The chatbot was built using AWS services, providing a scalable and secure platform that could handle real-time queries and deliver fast responses.

Inventory Integration

The chatbot was connected to iD17's existing database of furniture and decor items, ensuring up-to-date information on availability. This allowed clients to instantly check if specific items were available.

Personalized Staging Recommendations

Utilizing natural language processing and artificial intelligence, the chatbot interprets client preferences such as style, budget, and room type to offer bespoke staging suggestions. This feature greatly enhances the customer interaction experience, delivering information tailored to each client's specific needs.

Automated Booking and Scheduling

The integration of a booking system within the chatbot allows clients to reserve staging items and schedule deliveries directly, without the need for intermediary communication. This not only accelerates the turnaround time for customer requests but also minimizes human error.

Partner Solution - Technical

The solution is based on ClouDar's Claude Chatbot (more info: <https://clouDar.be/awsblog/claude-chatbot-on-aws/>) which is an architecture built on AWS managed services, eliminating the need for infrastructure management. Utilizing Amazon Bedrock, there's no need to communicate with APIs outside of AWS. This enables deploying scalable, reliable, and secure applications.

AWS Services used:

- Amazon DynamoDB: NoSQL database for conversation history storage
- Amazon API Gateway + AWS Lambda: Backend API endpoint (AWS Lambda Web Adapter, FastAPI)
- Amazon CloudFront + S3: Frontend application delivery (React, Tailwind CSS)
- AWS WAF: IP address restriction
- Amazon Cognito: User authentication
- Amazon Bedrock: Managed service to utilize foundational models via APIs. Claude is used for chat response and Cohere for vector embedding
- Amazon EventBridge Pipes: Receiving event from DynamoDB stream and launching ECS task to embed external knowledge
- Amazon Elastic Container Service: Run crawling, parsing and embedding tasks. Cohere Multilingual is the model used for embedding.
- Amazon Aurora PostgreSQL: Scalable vector store with pgvector plugin
- Amazon Athena: Query service to analyze S3 bucket

Quantitative Business Metrics

The transition from a traditional, manual processing system to a modern, generative AI-powered approach using AWS technologies has delivered significant financial and operational efficiencies at iD17. The following metrics illustrate the quantifiable impact of this transformation:

Key Metrics Overview

The implementation of the chatbot has resulted in a measurable reduction in operational costs, an increase in conversion rates, improved customer satisfaction, and overall better revenue performance. The specifics are highlighted in the table below:

Metric	Impact	Quantitative Benefit
Labor Cost Reduction	Automation of manual tasks	21% reduction, estimated annual saving €18,000
Conversion Rate Increase	Faster response and personalized recommendations	17% increase, contributing an additional €30,000 annual revenue
Missed Opportunity Reduction	Real-time inventory availability	15% decrease in missed opportunities, additional annual revenue of €12,000
Operational Efficiency Gain	Streamlined inquiry management	20% increase in customer inquiries

In-Depth Financial Efficiency Analysis

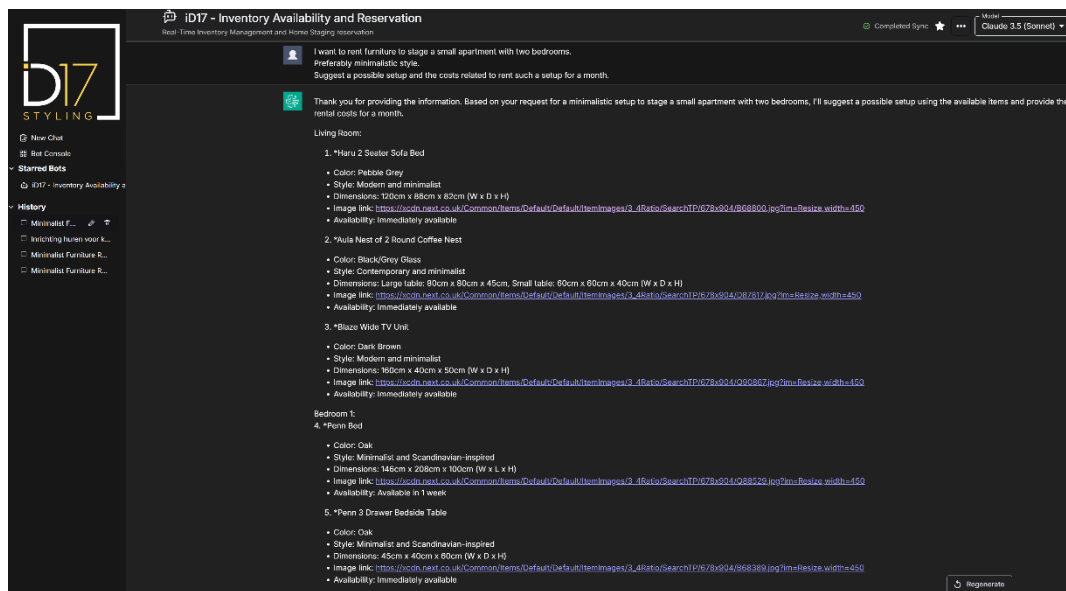
- **Reduced Manual Labor and Cost Savings**
Previously, iD17 managed inventory checks, inquiries, and bookings by hand, consuming time and risking errors. An automated system now saves 21% in labor costs—about €18,000 a year—and frees staff for high-value tasks like client consultations and strategic planning.
- **Accelerated Customer Conversions**
The generative AI chatbot's instant responses give agents and homeowners real-time info and tailored staging advice, boosting conversion rates by 17% and adding roughly €30,000 in annual revenue. Improved communication and accurate inventory tracking speed up decisions and prevent lost sales.
- **Capturing Revenue from Reduced Missed Opportunities**
Previously, delayed staging item confirmations often drove clients to other providers. Real-time availability checks via the chatbot have cut missed opportunities by 15%, adding €12,000 in annual revenue as more inquiries turn into bookings.
- **Overall Efficiency Gains and Scalability**
The automation of several key operational processes has contributed to a marked improvement in overall operational efficiency. By reducing the bottlenecks inherent in manual management, iD17 now handles a 20% increase in customer inquiries without the need to expand its workforce. This scalability not only reduces the marginal cost per customer interaction but contributes an additional estimated €10,000 in annual revenue. The robust platform provided by AWS ensures that as demand grows, the system can dynamically scale to match operational needs, creating a sustainable model for continued growth.

Results and Benefits

The integration of the chatbot, powered by AWS and implemented by Clouadar, provided numerous benefits for iD17:

- **Operational Efficiency:** The chatbot automated many of the manual processes involved in checking inventory and managing bookings. This allowed iD17's team to focus on high-value tasks, such as client consultations and creative staging work.
- **Improved Customer Experience:** Clients, including real estate agents and homeowners, could now receive instant responses regarding product availability and tailored staging suggestions, greatly enhancing their interaction with iD17.
- **Increased Scalability:** With Clouadar's solution, iD17 was able to handle a higher volume of customer inquiries and staging requests without needing to scale up its staff. The AWS-powered chatbot ensured that the system could grow with the business.
- **Faster Conversions:** Real-time inventory checks and the ability to instantly book items allowed clients to make quicker decisions, reducing the time it took to close staging deals and resulting in higher conversion rates.
- **Cost Savings:** By automating client interactions and booking processes, iD17 saved on labor costs and was able to operate more efficiently without compromising the quality of service.

Overall, iD17 was able to provide a more dynamic, responsive service while scaling its operations, positioning itself as a forward-thinking, tech-enabled home staging business in the competitive real estate market.



The screenshot displays the iD17 chatbot interface. The chat window shows a user asking for furniture recommendations for a small apartment with two bedrooms, requesting a minimalist style and a monthly rental cost. The chatbot responds with a list of items for a living room and bedrooms, including a sofa bed, coffee table, TV unit, and beds, with details on color, style, dimensions, and availability. The interface includes a sidebar with navigation options like 'New Chat', 'Bot Console', and 'Starred Bots', and a 'History' section.

About Clouadar

We are a team of highly skilled AWS Cloud Architects, offering rock solid solutions for any type of business. We design, build and operate high available and scalable cloud infrastructures based on [Amazon Web Services](#).

Not only are we an AWS Premier Consulting Partner with multiple AWS certifications, competencies & specialties, but we are also an AWS Solution Provider, AWS Managed Service Partner, AWS Well-Architected Partner, AWS Public Sector Partner and ISO/IEC 27001 certified for information security.

