

Case Study

AI-POWERED BUSINESS ASSISTANT FOR PHOTOGRAPHERS ON AMAZON BEDROCK FOR FOTOOWL

At a Glance

FotoOwl, an AI-powered media asset management and business platform for professional photographers, studios and event organizers, partnered with AceCloud to build an AI business assistant on Amazon Bedrock. The assistant lets photographers manage leads, projects, teams and business insights in plain language, using specialist AI agents that securely act through FotoOwl's own application APIs.

The engagement addressed two needs at once: giving photographers a single intelligent place to run their business, and establishing Amazon Bedrock as a scalable, multi-tenant AI foundation for FotoOwl's growing customer base, with the security and tenant isolation that business data demands.

Outcomes

- Delivered three specialist AI agents (Lead Management, Project & Team Management, Business Insights) coordinated by a Supervisor Agent.

- Enforced strict tenant isolation so each photographer only retrieves their own business context.
- Required explicit user confirmation before any agent performs a write action.
- Selected Bedrock models on measured quality, latency and cost, tiered by task complexity.
- Introduced proactive daily digests and follow-up reminders for every photographer.
- Completed the production-ready architecture in the AWS Asia Pacific (Mumbai) region in a six-week engagement.

The Client

FotoOwl is an AI-powered platform used by photographers across weddings, corporate events, sports and schools. It helps them deliver, organize, share and monetize event photos at scale, with face-recognition-based photo discovery, camera-to-cloud upload, branded client galleries, photo selling, AI-generated highlight reels and WhatsApp-based delivery.

FotoOwl is now expanding beyond photo delivery into a complete business management suite covering leads, projects, teams, tasks, client communication and business insights, so that studios can run their entire business from a single platform.

The Challenge

As studios grow, photographers spend more and more time on administration instead of photography: chasing leads, remembering follow-ups, tracking project status, assigning tasks and working out where the business is heading. The information exists, but it is spread across leads, conversations, projects and team activity.

FotoOwl wanted an assistant that understands natural-language requests, retrieves the right business context and takes action on the photographer's

behalf. That raised hard requirements: an assistant acting on real business data had to keep every photographer's data strictly separate, never change records without approval, and stay fast and affordable as the customer base grew.

The Solution

AceCloud designed a multi-agent assistant on Amazon Bedrock, running in the AWS Asia Pacific (Mumbai) region. Photographers reach it from the FotoOwl web and mobile apps through Amazon API Gateway, with WebSocket support for streaming responses and a Lambda authorizer that validates every user and tenant.

- **Specialist Agents and Safe Actions**

A Supervisor Agent on Amazon Bedrock AgentCore routes each request to the right specialist: the Lead Management Agent tracks leads, identifies pending follow-ups, summarizes conversations and suggests next actions; the Project & Team Management Agent monitors project status, identifies and assigns pending tasks and summarizes team progress; and the Business Insights Agent analyzes leads, projects and operational data to generate actionable insights.

Agents act only through AWS Lambda tools that call FotoOwl's existing application APIs, each with a dedicated least-privilege role. Every write action requires explicit human confirmation.

- **Grounded, Tenant-Isolated Context**

Amazon Bedrock Knowledge Bases, backed by Amazon OpenSearch Serverless, provide retrieval over lead conversations, client communication, notes and project briefs. Tenant context is injected server-side and mandatory metadata filters are applied to every query, so no photographer can retrieve another's data.

AWS Glue builds a curated, tenant-partitioned data lake in Amazon S3 from Amazon RDS and Amazon DynamoDB, and Amazon Athena runs pre-defined, tenant-scoped analytical queries for conversion rates, revenue trends, turnaround time and team utilization.

- **Evaluation-Led Model Selection**

Rather than assuming one model fits every task, the team built a golden evaluation dataset of representative photographer queries for each agent and benchmarked candidate Bedrock models on response quality, reasoning, tool-use accuracy, multi-step workflow execution, contextual retrieval, latency and cost per conversation.

The result is a tiered approach: lightweight models for intent routing and summaries, advanced models for multi-step reasoning and insights, with prompt optimization and prompt caching to keep cost and latency down.

- **Proactive Insights and Notifications**

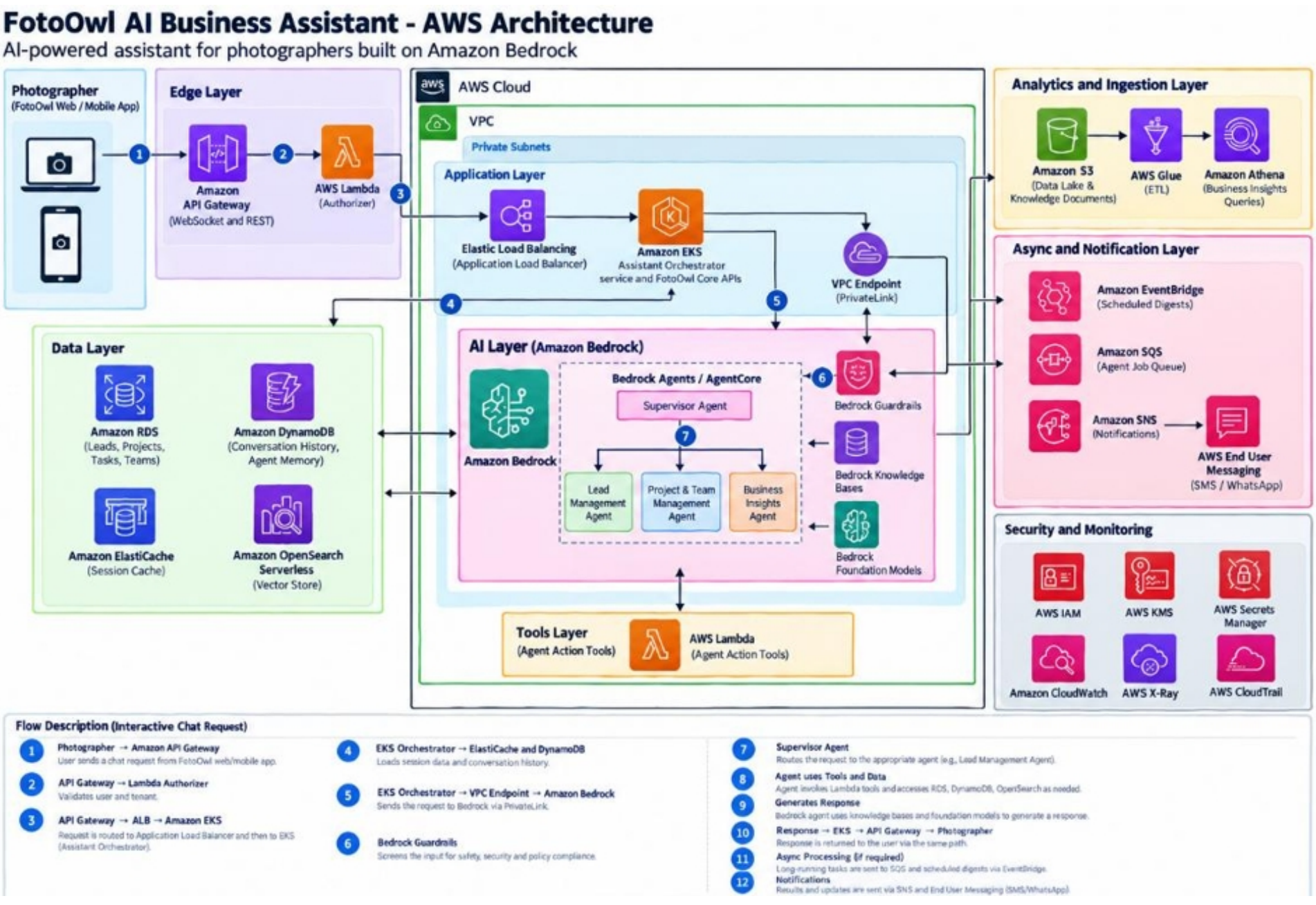
Amazon EventBridge schedules and Amazon SQS queues (with dead-letter queues) drive daily digests and follow-up reminders per photographer. Amazon SNS and AWS End User Messaging deliver them in-app, by SMS and through messaging channels.

- **Security, Governance and Monitoring**

The Assistant Orchestrator runs on Amazon EKS behind an Application Load Balancer, with session memory in Amazon ElastiCache and DynamoDB. Amazon Bedrock Guardrails screen inputs and outputs for prompt-injection attempts, sensitive information, denied topics and ungrounded responses. Bedrock is accessed privately through AWS PrivateLink, data is encrypted with customer-managed AWS KMS keys, and Amazon CloudWatch, AWS X-Ray and AWS CloudTrail provide dashboards, distributed tracing of agent workflows and a full audit trail.

Architectural Diagram

The diagram below shows how a request moves through the solution end to end.



Results and Benefits

- **Time Back to Photographers:** Follow-ups, task assignment and status summaries move from manual effort to a conversation. **Safe by Design:** Tenant isolation, guardrails and human confirmation for writes mean the assistant can act on real business data without putting customer trust at risk.

- **Quality, Speed and Cost in Balance:** Evaluation-led model tiering and prompt caching keep responses fast and cost per conversation predictable.

- **Scalable Foundation:** A multi-tenant architecture ready to onboard FotoOwl's growing photographer base without redesign.

- **Operational Visibility:** Dashboards, tracing and audit trails give the team insight into agent behavior, Bedrock usage and cost at all times.

AWS Services Used

The solution draws on a focused set of AWS services, each handling a specific part of the workflow:

- Amazon Bedrock
- Amazon OpenSearch Serverless
- Amazon API Gateway
- AWS Lambda
- Amazon EKS
- Amazon RDS
- Amazon DynamoDB
- Amazon ElastiCache
- Amazon S3
- AWS Glue
- Amazon EventBridge,
- AWS Monitoring services

Conclusion

By building on Amazon Bedrock with AceCloud, FotoOwl now has a secure, multi-tenant AI assistant that helps photographers run lead management, project delivery and business insights from one place. With agents that act safely, models chosen on evidence and an architecture designed to scale, FotoOwl is well positioned to make Amazon Bedrock the core AI platform for its business suite.



Contact Us

Are you ready to cut down your cloud spending? Contact AceCloud Experts today to get a customized quote.

awspartner@acecloud.ai

https://acecloud.ai/aws/

Our Location

2069 Oneill Dr, Bethel Park, Pennsylvania, 15102-6602

2637 E Atlantic Blvd #23519 Pompano Beach, FL 33062, Florida

Ace Tower, 809-A, Udyog Vihar, Phase 5, Gurugram 122016, Haryana, India

About Us

Years of Exp
15+

Data Center
10+

Awards
100+

AceCloud is a leading provider of end-to-end cloud computing solutions to global organizations across industries at scale. It offers a full spectrum of cloud services, including Public Cloud, Application Hosting, AWS Services, Managed Security Services, and Hosted Virtual Desktop Solutions.

AceCloud is a brand of Real Time Data Services (RTDS) group of companies - a leading provider of information technology capabilities specializing in Cloud Computing and Cloud Telephony. RTDS Group has an employee base of 600+ across India, the US, and the UK, supporting over 20,000+ customers and IT infrastructure in 10+ data centers spanning the globe. It offers industry-leading technological solutions that help customers streamline their operations and enhance efficiency.

As an advanced consulting and certified AWS Well-Architected Partner, AceCloud recently achieved the prestigious AWS Storage Competency and is also recognized as an Amazon RDS Service Delivery Partner. These achievements underscore its deep expertise in AWS technologies and commitment to delivering high-quality cloud solutions.

aws
PARTNER
Advanced Tier Services

- Public Sector
- Amazon RDS Delivery
- Storage Services Competency
- Well-Architected Partner Program