DiveScale
Your Technology Partner

embedded world NA 2026
Anaheim, Sep 22 to 24

Your hardware is ready. We build the software around it.

Cloud platforms, fleet consoles, companion apps and AI features for connected products, built by an AI-native engineering team.



15+
production platforms designed, built and launched

23%
lower electricity costs for a verified energy client

75%
faster incident reporting on an industrial safety AI platform

DiveScale LLC, San Diego, CA

Lunul console and app, built by DiveScale

An AI-native engineering team that ships the software layer of connected products

DiveScale is a San Diego software company with an engineering team in Lahore, Pakistan. We design, build and run the cloud, data, apps and AI that sit on top of your hardware.

15+ production platforms

Shipped for clients in the US and Europe, from IoT fleets to HIPAA-grade healthcare.

AI-native by default

Our engineers build with AI every day, and ship AI features that hold up in production.

Cloud to app, one team

Cloud and IoT, backend, web, mobile, data and AI engineers in one delivery team.

With you after launch

Support and optimization retainers keep your platform running and improving once it ships.

HE

Hassaan Elahi

Founder and CEO, DiveScale LLC

8+ years building production software, including leading engineering teams at multinationals

Founded DiveScale in 2023 and has led the delivery of 15+ production platforms since

AWS Certified Cloud Practitioner and ACM programming competition winner

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Industries we have shipped for: smart home and lighting, energy, industrial safety, healthcare, veterinary, hospitality, B2B data and e-commerce.

From the device to the dashboard, we build everything after the board

Your team owns the hardware. We build what comes after it: secure connectivity, the data layer, and the apps people use.

Device

Boards, sensors, controllers and firmware from your hardware team.

What DiveScale builds

Connectivity and identity

MQTT and AWS IoT Core, X.509 certificates, fleet provisioning, gateways and pairing flows.

Cloud and data

APIs, device registry, time-series storage, rules, alerts, and firmware and OTA management.

Apps and consoles

Fleet consoles, installer commissioning apps, customer web and mobile apps.

AI and automation

Edge ML, anomaly detection, assistants over your manuals and service data, vision checks.

Connected products fail at the seams: device and gateway, gateway and cloud, prototype and fleet. We design these layers together so the seams are engineered, not assumed.

What we build for hardware and connected product teams

Provisioning and device identity

Secure onboarding for every unit, with certificates, claim flows and a searchable device registry.

X.509, mTLS, JITP, QR and BLE claim

Telemetry and fleet data

Ingestion that holds at fleet scale, time-series storage, and rules that turn readings into alerts.

MQTT, IoT Rules, TimescaleDB, Timestream

Firmware and OTA management

Versions per board and core, OTA campaigns with staged rollout and rollback.

AWS IoT Jobs, S3, canary to full rollout

Commissioning and installer apps

Guided pairing for controllers, dimmers and sensors, with live status in the field.

React Native, offline-tolerant flows

Fleet consoles and customer apps

Dashboards for device health and project status, and the apps your customers use daily.

React, Next.js, real-time, multi-tenant

Edge and product AI

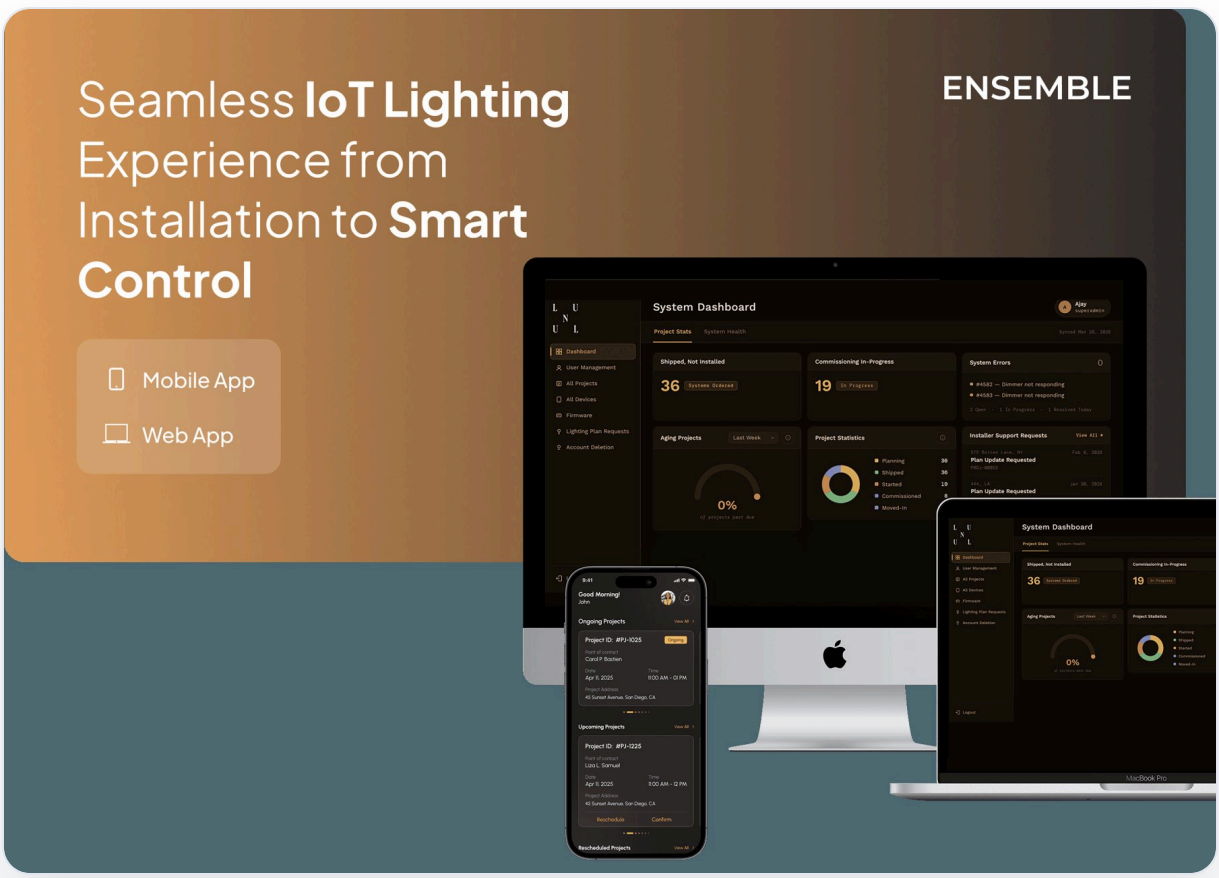
Presence and anomaly models at the edge, and assistants that answer from your manuals.

Edge ML, vision, RAG, Claude and OpenAI

Lunul: intelligent home lighting, from installation to move-in

Client: Lunul (Ensemble) / Smart home lighting and controls for new builds and renovations

Lunul unites premium lighting, dimming and wall controls in one system that architects and builders specify. Handover between installers and homeowners was manual, and pairing devices in the field was hard.



What DiveScale built

- **Operations console** for projects, devices, firmware and lighting plans
- **Installer mobile app** with guided pairing and commissioning
- **Homeowner experience** with invites and real-time control of light, color and automation
- **AWS IoT Core backend** linking every device to its project

How Lunul fits together, from the wall to the cloud

In the home runs locally, even offline

Lunul controller
STM32 and ESP32 cores, edge ML presence model, local scenes and schedules

- Spatial dimmers
- LED drivers
- Presence sensors
- Spatial bulbs
- Wall controls
- Installer app pairing

MQTT over TLS telemetry, commands and firmware OTA

AWS cloud

AWS IoT Core
Device registry, X.509 certificates, MQTT broker, rules routing device events

FastAPI on EC2
Projects, devices, firmware and plan APIs

AWS Lambda
Device events and background jobs

RDS PostgreSQL
Projects, devices, firmware registry

S3 and CloudFront
Firmware images, plans, app delivery

HTTPS APIs for every app

Operations console
Projects, devices, firmware and OTA

Installer app
Commissioning and pairing

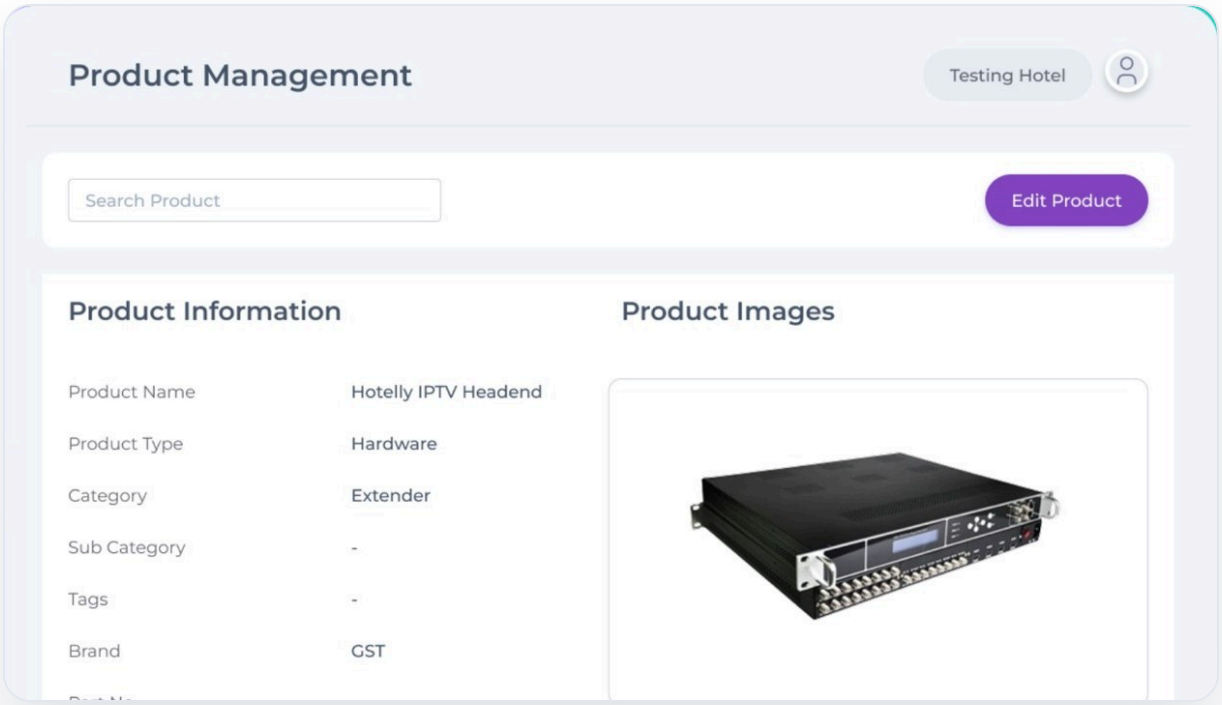
Homeowner app
Light, color and automation

Every project tracked through

Planning → Shipped → Started → Commissioned → Moved in

Hotelly: in-room hardware, managed across every hotel

Client: Hotelly / Apple TV IPTV systems, iPad compendiums and digital signage for hotels



- **Multi-property console** with every site, its users, billing and orders
- **Equipment orders** tracked from order to install, including IPTV headends
- **QR device enrollment** and in-room resets when guests check out
- **Support tickets and alerts** that fix common device issues early

70 to 95%
less manual in-room reset work

50 to 80%
faster device provisioning

50 to 75%
of common issues resolved before escalation

60 to 90%
less admin time with unified billing

Estimated ranges from the Hotelly case study, based on published industry benchmarks. Built on Next.js, NestJS, PostgreSQL, Redis and AWS ECS.

Trawa: running every energy asset as one fleet

Client: Trawa / Energy platform for commercial and industrial users in Germany



Assets the platform coordinates



CHP units



Cooling



EV charging



Heating and AC

- **Asset control** for CHP units, batteries, EV chargers and cooling, driven by demand, grid signals and prices
- **Load shifting, peak shaving and arbitrage** that run automatically
- **Consumption analytics** by site, time and usage type in real time

23%
lower electricity costs for a verified customer in 6 months

10 to 30%
average electricity savings across customers

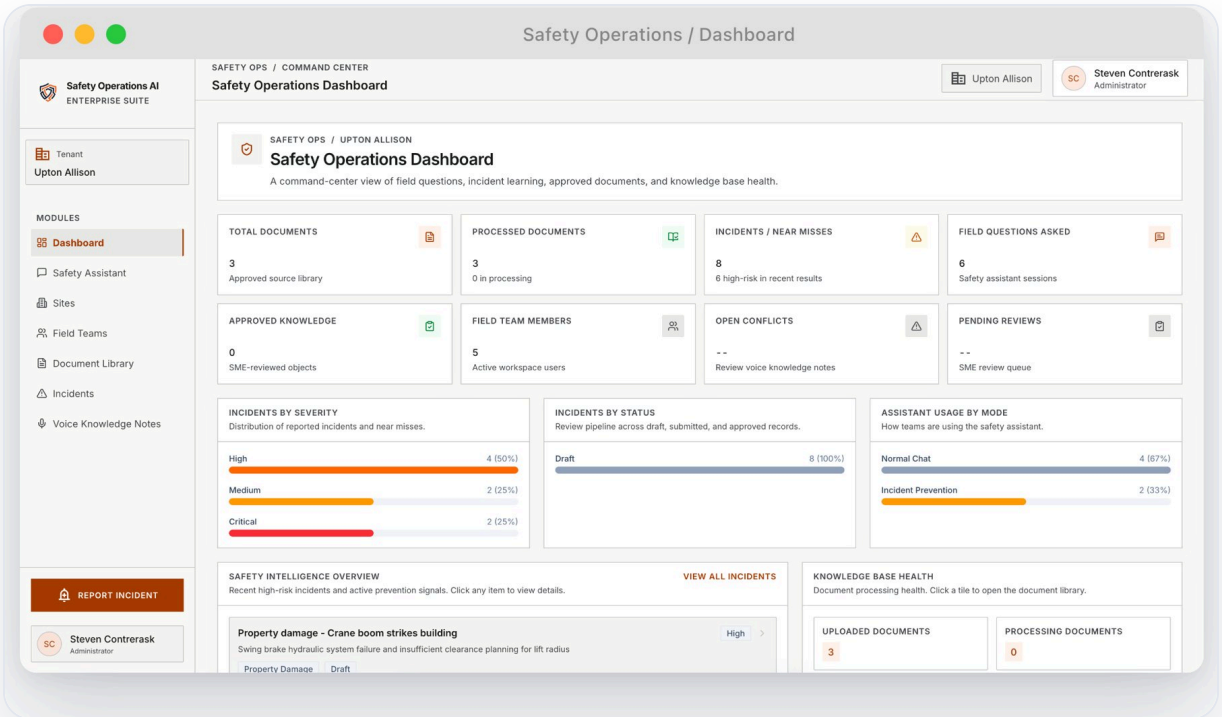
60 min
to a final offer, down from 2 to 4 weeks

about €620
a year in arbitrage per 10 kWh of battery

Stack: AWS IoT, MQTT, TimescaleDB, PostgreSQL, Python, Node.js, React

Safety Operations AI: trusted guidance for field teams

Industrial safety platform / Manufacturing, construction, oil and gas, logistics



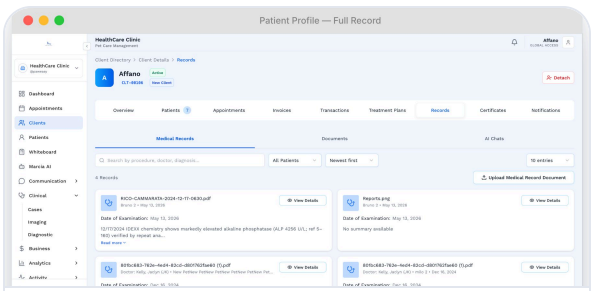
- **Field worker copilot** answering from approved procedures, with citations
- **Image-based hazard checks**, risk briefs, PPE guidance and stop-work triggers
- **Expert approval** and conflict detection, with a full audit trail

75%
faster incident reporting

87%
faster toolbox talk prep

The same pattern works for your products: turn device manuals, service logs and field photos into an assistant for your technicians.

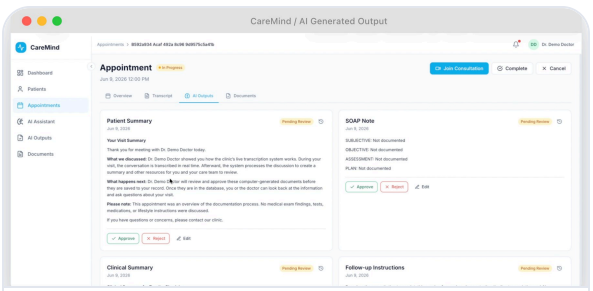
More platforms we have designed and launched



PetHealthcare AI OS

Veterinary hospitals

An AI-native platform for clinics that cannot go offline, on Amazon EKS.



CareMind AI

HIPAA-grade telehealth

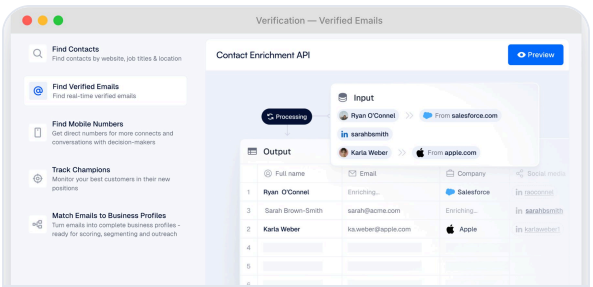
Video visits with live AI transcription and clinician-approved notes.

1.5 days to 2 hrs

Sub-Ready

Property management

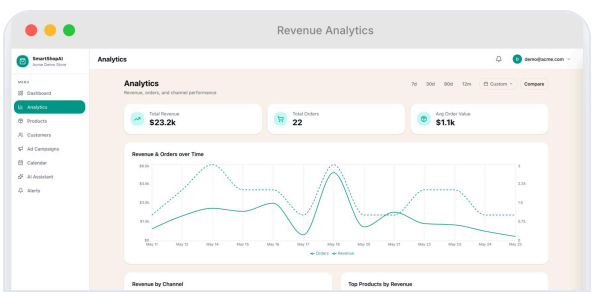
AI subcontractor onboarding: W-9 and COI checks, DocuSign, QuickBooks.



Waterfall

B2B data platform

One API over 30+ data vendors, on AWS Lambda and Step Functions.



Smart Shop AI

E-commerce operations

Shopify, Google and Meta Ads in one dashboard with an AI analyst.



Real-time voice agents

Voice interfaces

Voice booking and hands-free guidance, built on LiveKit and Deepgram.

Hardware, protocols and platforms we integrate with

Device platforms

ESP32 · STM32 · Nordic nRF · ARM Cortex-M · Raspberry Pi · Embedded Linux · NVIDIA Jetson · Arduino

Wireless

Wi-Fi · Bluetooth LE · Matter · Thread · Zigbee · Z-Wave · LoRaWAN · LTE-M · NB-IoT

Industrial and building

Modbus · OPC UA · BACnet · CAN bus · KNX · DALI · DMX512 · 0 to 10V · OCPP

Messaging and APIs

MQTT · CoAP · AMQP · WebSockets · REST · GraphQL · gRPC · Webhooks

IoT cloud

AWS IoT Core · Device Shadow · IoT Jobs · Greengrass · Azure IoT Hub · EMQX · HiveMQ

Data and time series

TimescaleDB · Timestream · InfluxDB · PostgreSQL · Kinesis · Grafana

Security

X.509 · mTLS · JITP · Cert rotation · Signed OTA · Audit logs

Edge AI and vision

TensorFlow Lite · ONNX Runtime · OpenCV · Anomaly detection · LLMs with RAG

How a connected product build runs with us

We prove the whole path early, then scale it.

1. Scope the system

Device, gateway, cloud, apps and operations designed together, with the outcome defined up front.

2. Prove the seams

A real device reporting to a real dashboard within the first milestone.

3. Build for the fleet

Provisioning, telemetry storage, alerts, and OTA with staged rollout and rollback.

4. Pilot and harden

A small field pilot, heavy instrumentation, and fixes for what the field surfaces.

5. Operate and evolve

Fleet operations, release cadence, and a roadmap driven by the platform's data.

How we keep quality high

Output defined first

We agree what "working" means, then write the tests before we build.

We close the loop

Every failure found feeds back, so the same error does not return.

What clients say about working with us

> Hassaan and team are true professionals... well organized without being rigid, very clear communication... and deliver high quality solutions quickly. They will be our first call for full stack work in the future.
>
> **Brian Hendrickson**
> CEO and Co-Founder, Lunul

"I highly recommend Hassaan for any web, cloud, or AI project. He is an excellent engineer with profound expertise in modern technologies."

Daniel, CEO of Humaitrix

"Hassaan excelled as a technical project manager, leading the React/Node development team with confidence and skill."

Abdullah Sabih, CEO of Masaf KSA

"They are reliable, proactive, and genuinely care about creating value."

Said Aadmsaid, CEO of AI Maths Tutor

DiveScale
Your Technology Partner

Let's build the software around your hardware

Tell us what your device does and who needs its data. We will come back with a plan, a timeline and a fixed quote or a team proposal.

Option one

Fixed-scope build

A platform, console, app or AI feature for a fixed price, against agreed milestones.

- First milestone proves device to dashboard
- Scope and price agreed up front
- You own the code

Option two

Dedicated engineers

Senior cloud, IoT, full-stack and AI engineers who join your team.

- Start with a 2-week trial
- Scale up or down as you grow
- Backed by a firm that owns delivery

Talk to the founder

Hassaan Elahi

Founder and CEO, DiveScale LLC

Book a call

Scan to share your project and book a 30-minute call.

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