

# CANOPY. — Business Plan

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Risk intelligence for complex, changing environments · United Kingdom

**Prepared for:** Prospective clients, partners, and stakeholders

**Offered by:** Northern Edge Software, Darius, CANOPY.

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## 1. Overview

**CANOPY.** is a software platform that helps organisations understand how risk emerges in complex, changing environments. By combining deployable sensing, computer vision, and synthetic models, CANOPY. provides continuous situational awareness and identifies patterns that lead to safety incidents before they occur.

CANOPY. is designed for environments where permanent infrastructure is impractical and layouts, behaviours, and conditions change over time — including rail corridors, warehouses, workshops, and manual-labour sites.

## 2. Problem

Existing safety and monitoring systems are largely reactive and compliance-driven. They typically focus on:

- isolated incidents
- static dashboards
- real-time alerts without context

These approaches struggle to:

- identify long-term risk patterns
- adapt to temporary or evolving sites
- explain why incidents keep recurring

As a result, organisations often know *what happened*, but not *how risk formed*.

## 3. Solution

CANOPY. addresses this gap by focusing on **patterns rather than policing**.

The platform:

- ingests data from deployable cameras and sensors
- detects movement, presence, and environmental conditions
- models each site as a living synthetic environment
- identifies repeat near-misses, risk hotspots, and behavioural drift over time

Rather than monitoring individuals, CANOPY. helps organisations understand **how environments create risk**.

## 4. Product

**CANOPY. Sight™** is a web-based platform for viewing and analysing operational environments.

### Core capabilities include:

- live and recorded camera views
- event and incident timelines
- pattern detection (repeat zone entry, dwell, congestion)
- synthetic site models for spatial context
- playback and analytics across time

The platform supports both real deployments and simulation mode for demonstrations and pilots.

## 5. Market

### Initial target sectors:

- rail and transport infrastructure
- warehouses and logistics
- workshops and manual-labour environments

These markets share:

- high safety risk
- changing layouts and workflows
- temporary operations
- strong regulatory and insurance pressures

CANOPY. is designed to scale across sectors without re-engineering the core system.

## 6. Differentiation

CANOPY. stands out through three core principles:

1. **Patterns over policing** — Focusing on how risk emerges over time rather than individual fault.
2. **Synthetic models at the core** — Environments are living models, not static dashboards.
3. **Deployable by default** — Designed for temporary and changing sites, not fixed CCTV.

This positioning reduces surveillance concerns and delivers higher-value insight.

## 7. Business model

CANOPY. operates a **site-based SaaS subscription model**, aligned with how organisations budget for safety and operations. Subscriptions are priced per active site, reflecting the depth of insight and analysis provided.

### Subscription tiers (indicative pricing)

Tier	Monthly (GBP) per site	Included
CANOPY. Observe	<b>£250–£400</b>	live and recorded viewing; event timeline; basic alerts; playback; simulation mode; short-term data retention
CANOPY. Insight	<b>£750–£1,200</b>	pattern detection and trends; time-based risk analysis; synthetic model overlays; multi-device sites; extended data retention
CANOPY. Predict	<b>£2,000–£3,500</b>	cross-site comparisons; intervention impact analysis; risk drift indicators; scenario testing within synthetic models (advanced, later phase)

## 8. Site modelling & setup

Not all deployments require the same level of spatial or visual fidelity. CANOPY. supports three levels of site context, provided as a **one-time setup service**. Site modelling is kept separate from subscription fees to maintain clean SaaS economics. Where required, setup costs can be amortised across the first 6–12 months of subscription.

### Site model levels

Level	One-off (GBP)	Includes
<b>Level 1 — Contextual site model</b>	<b>£500–£1,000</b>	site layout and boundaries; safety and exclusion zones; camera placement; reference imagery or schematics. Default starting point for most deployments.
<b>Level 2 — Visual site model</b>	<b>£2,000–£5,000</b>	drone capture; 3D mesh or orthomosaic; visual context for playback and review. Used where spatial understanding and stakeholder communication are important.
<b>Level 3 — High-fidelity synthetic model</b>	<b>£8,000+</b>	high-resolution photogrammetry; optional RTK accuracy; simulation and comparative analysis. Reserved for complex, high-risk environments.

## 9. Deployment & operations

CANOPY. is designed for:

- rapid deployment
- minimal on-site disruption
- temporary and mobile installations

Hardware may be provided by CANOPY., leased, or customer-supplied (existing CCTV where appropriate). The platform remains **hardware-agnostic**.

## 10. Current status

- Core platform and dashboard operational
- Simulation mode available for demonstrations
- Early pilots and limited live deployments underway
- Access expanding selectively via request-based onboarding

## 11. Vision

CANOPY. aims to become the **risk intelligence layer for complex environments** — enabling organisations to move from reactive safety management to proactive, evidence-based prevention.

## 12. Partnership & team

The offering is delivered by a joint partnership:

- **Northern Edge Software** — Software delivery, integration, and operational support.
- **Darius** — Drone and UAV expertise, sensor deployment, and real-world operational guidance.
- **CANOPY.** — Product vision, synthetic models, and operational intelligence layer.

### Darius — Drone & UAV expertise

Darius brings frontline, real-world expertise in drone and UAV operations. He served for **three years** in Ukraine with Ukrainian special forces, supporting operations where deployable sensing and aerial intelligence were critical. That experience directly informs how we design and deploy sensing layers—rapid deployment, geospatial tagging, and reliable data ingestion in demanding environments. His input ensures the system is practical for field use, not only in theory.

## 13. Product in detail

### What the software does

- **Dashboard** — Single view of sites, devices, and system health.
- **Sites & devices** — Manage locations and edge units (cameras, MeshConnect nodes); monitor status and heartbeats.
- **AI detection** — Object detection (person, vehicle, animal) with zone breach detection and risk scoring.
- **Alerts** — Severity-based alerts (advisory, warning, critical) with acknowledge/resolve workflow.
- **Playback** — Browse events and access time-limited signed links for relevant video clips.
- **Analytics & heatmaps** — Date-filtered analytics and spatial heatmaps.
- **Incidents** — Log and track manual incident reports with severity and resolution.
- **Multi-tenant & roles** — Organisation-scoped data; admin, supervisor, and viewer roles.

## Why choose CANOPY. Sight

- **No black box** — Confidence and uncertainty are surfaced; you see what the system knows and how sure it is.
- **Built for operators** — Designed for people who need to act, not only for data scientists.
- **API-first & integrable** — Dashboards, alerts, and reports can feed existing GIS and ops tools.
- **Edge-ready** — Runs on edge hardware (e.g. Raspberry Pi); optional MeshConnect for low-latency wireless backhaul.
- **Offline resilience** — Edge agents queue events when connectivity is lost and sync when back online.

## 14. ROI and value

CANOPY. Sight reduces the cost of manual monitoring, speeds response to incidents, and supports compliance and auditability.

- **Fewer manual patrols** — Continuous AI-assisted monitoring can reduce reliance on 24/7 human patrols at key sites.
- **Faster response** — Alerts and playback help operators react quickly and verify events with clip evidence.
- **Evidence and audit** — Event metadata, clips (when stored), and audit logs support investigations and regulatory requirements.
- **Scalability** — Adding cameras scales with predictable per-camera costs; shared backend keeps unit cost down as you grow.

ROI will vary by site size, incident frequency, and labour costs. We can provide a tailored ROI worksheet based on your sites and use case.

## 15. Pricing

All prices are in **British Pounds (GBP)**. Euro (EUR) equivalents are indicative and may be updated at contract. VAT is not included; applicable VAT will be added where required.

Primary pricing is **per site** (see Section 7). For reference, **camera-based tiers** are also available where site-based tiers are not yet applied:

Tier	Cameras	Monthly (GBP)	Yearly (GBP)
Starter	1–10	<b>£349</b>	<b>£3,490</b>
Growth	11–50	<b>£699</b>	<b>£6,990</b>
Scale	51–150	<b>£1,299</b>	<b>£12,990</b>
Enterprise	151+	<b>Custom</b>	<b>Custom</b>

Yearly pricing gives approximately 2 months free. Implementation: full deployment and go-live within 6 months of contract.

### Per-camera and storage (add-on or included by tier)

Item	GBP	Notes
Extra cameras above tier limit	<b>£18/camera/month</b>	Billed in addition to tier
Clip storage (standard)	Included	Up to tier limit
Extended clip storage	<b>£0.08/GB/month</b>	Beyond included allowance
Extended retention (metadata)	<b>£49/month</b>	e.g. 12-month retention

## 16. Add-on options

Optional modules can be added if needed. Pricing is indicative; final quotes on request.

Add-on	Description	GBP (indicative)
AI reports & NL query	Automated incident analysis, natural-language questions over your data, report generation (Claude)	£79–149/month
MeshConnect integration	Mesh networking for edge devices; low-latency wireless backhaul; topology and status in dashboard	£99/month + per-node
Live video streams	WebRTC/HLS live view from cameras (when available in release)	£49/month
UAV / drone ingestion	Workflow and integration for UAV imagery and telemetry into the platform	Custom
Extra users / SSO	Additional user seats or SSO/SAML (e.g. Clerk Enterprise)	From £25/month
Dedicated support	Named contact, SLA, priority response	Custom
On-premise deployment	API and database hosted in your environment; we manage updates	Custom

## 17. Security & data protection

Security is built into the platform and into how we operate it.

### Authentication & access

- **Authentication** — Production uses Clerk (or equivalent); all sensitive API routes require a valid user and organisation.
- **Organisation scoping** — Every query filters by organisation ID; tenants cannot access another tenant's data.
- **Roles** — Admin, supervisor, and viewer roles control what users can see and do.

### API & infrastructure

- **Security headers** — Helmet-style headers (CSP, etc.) on the API.
- **CORS** — Allowed origins configured for your domains.
- **Rate limiting** — Per-client limits; production can use Redis for distributed limiting.
- **Secrets** — API keys, database URLs, and third-party keys stored in environment variables, not in code.

### Data & recordings

- **Database** — PostgreSQL with Prisma; indexes and relations; optional encryption for sensitive config fields.
- **Audit log** — Actions, resource type, resource ID, user, IP, and changes recorded for compliance.
- **Video** — Raw video is not stored in the database. Only metadata (path, duration, size, timestamps) is stored. Actual clips live in object storage (e.g. S3 or equivalent).
- **Clip access** — Access to clips is only via time-limited signed URLs. The server checks organisation ownership before issuing a link; URLs expire (e.g. 1–24 hours).

We can provide a more detailed security and data-processing annex on request (e.g. for GDPR or procurement).

## 18. Tech stack & data flow

### Technology stack

- **Frontend** — Next.js 14, React, TypeScript, Tailwind CSS, ShadCN.
- **Backend** — Node.js, Express, tRPC, Prisma, PostgreSQL (optional pgvector for vector search).

- **AI/ML** — Claude (Anthropic), LangChain, ONNX Runtime, YOLO for detection.
- **Auth** — Clerk (production).
- **Infrastructure** — Docker, TurboRepo; CI/CD (e.g. Bitbucket Pipelines); optional Sentry for monitoring.

## Data and streaming flow

- **Edge** — Cameras and sensors feed an edge agent (e.g. on Raspberry Pi). The agent runs YOLO-based detection, zone checks, and risk scoring, then sends event payloads (and optionally clip metadata) to the API.
- **Upload** — Event data and clip metadata are sent over HTTPS to the central API. Video files can be uploaded to object storage (e.g. S3) from the edge or via a processing service; the database stores only paths and metadata.
- **Mesh (optional)** — MeshConnect provides mesh networking between edge nodes; config and topology are stored in the database; traffic can be encrypted (AES-256).
- **API** — The tRPC API serves the web app and any integrations. All procedures that touch data are organisation-scoped and, where appropriate, protected (auth required).
- **Playback** — When a user requests playback, the app calls the API with a clip ID; the API verifies organisation ownership and returns a short-lived signed URL to the object store; the browser or player uses that URL to stream the clip.

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