CONFIDENTIAL PRODUCT OVERVIEW

Penguin Scribe

The connected pathology operations platform—from patient registration to grossing, reporting, technician execution, IHC and inventory.

Investor & acquisition product book
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EXECUTIVE BRIEF

A vertical operating system for pathology workflows

PenguinScribe connects the work that begins at accessioning and continues through grossing, microscopy preparation, reporting, laboratory coordination and operational control.

100+
user-facing application screens identified in the reviewed repository

3
delivery surfaces: web platform, Windows grossing client and native Android workflow

1
connected record spanning patient, case, specimen, media, task and inventory activity

Hybrid
local-first and cloud-connected deployment architecture

The product thesis

Pathology teams lose time when patient data, dictation, images, technician work, IHC usage and inventory live in disconnected systems. PenguinScribe brings these steps into a single operational workflow.

What makes it defensible

- Deep, domain-specific workflow logic rather than a generic transcription wrapper
- Offline-aware operations for laboratories with unreliable connectivity
- Traceable handoffs across clinical and laboratory roles
- Configurable intelligence layer compatible with preferred AI models
- Multi-company administration and machine-level controls

Investment relevance. A buyer receives an established product base with pathology workflows, cross-device applications and deployment controls already integrated—reducing the time and execution risk of building a comparable vertical platform from zero.

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Basis of review

This book was prepared from a repository-wide review of application routes, API endpoints, security and data-routing libraries, web modules, the native Android application, the Windows desktop client, implementation notes and existing product documentation. It describes software capabilities visible in the codebase; it does not claim audited customer adoption, revenue, regulatory certification or production service levels.

From fragmented tools to one pathology workflow

The platform is positioned between a laboratory information system, a grossing workstation, a clinical documentation suite and a laboratory operations layer.

Its value lies in connection: the case created at reception is the same case opened by QR code at grossing, viewed by the technician, assigned for IHC, linked to images and carried forward for reporting.

Primary customer profiles

- Independent histopathology laboratories
- Hospital pathology departments
- Multi-site diagnostic groups
- Specialty oncology and tissue laboratories
- Healthcare software operators seeking a white-label base
- Enterprise buyers requiring local deployment flexibility

Operational problem

Disconnected registration, audio, documents, images, task communication and stock records create duplicate work and incomplete visibility.

Product response

One tenant-aware platform coordinates case data, workflow stages, role-specific workspaces, media and consumables.

Strategic outcome

A reusable vertical software asset that can be deployed, localized, integrated, white-labelled and extended.

“The intelligence is useful; the connected workflow is the product.”

AI-assisted transcription and formatting sit inside a broader pathology operating model and remain compatible with the buyer’s preferred AI models.

02 · END-TO-END CASE JOURNEY

One case, connected from intake to reporting

1 · Register

Create patient, assign type and structured case number.

2 · Accession

Add specimens, orders, clinical data, images and identifiers.

3 · Gross

Open by search or QR, record audio and preserve a local draft.

4 · Structure

Generate transcript and formatted gross description.

5 · Execute

Coordinate technician tasks, blocks, slides and IHC work.

6 · Complete

Advance microscopy/reporting stages with history and audit.

Data that travels with the case

- Patient demographics and referral context
- Patient type, case number and barcode/QR identifiers
- Clinical notes, specimen records and orders
- Grossing audio, transcript and formatted description
- Specimen, cassette, block and slide images
- Technician tasks, messages and audio notes
- IHC requests, marker selection and drop consumption
- Reporting stage, notifications and action history

Workflow design principles

- Role-specific views without breaking the shared case context
- Scan-first access for fast physical-workflow transitions
- Safe draft and recovery behavior during active grossing
- Queues that make pending work visible to responsible teams
- Explicit accept, reject and complete states
- Inventory deduction tied to the actual operational event
- Local continuity with background synchronization

Why the workflow matters: every connected handoff reduces re-entry and gives the organization a more complete operational record than standalone dictation, generic task management or inventory tools can provide.

The structured system of record

The LIMS layer establishes the patient, case, specimen and order context used by every downstream module.

Registration

- Patient creation and master records
- Configurable patient types
- Type-coded sequential numbering
- Referring doctors and centers
- Clinical information capture

Specimen & order

- Multiple specimens per patient
- Configurable specimen fields
- Optional or mandatory image rules
- Order and test workflows
- Test categories and mapping

Output & access

- Patient and case search
- Barcode and QR generation
- Result-entry workspace
- Configurable PDF templates
- Billing and case documents

Configuration depth

Patient types	Case identity and numbering behavior
Specimen types	Capture requirements and image policy
Test master	Categories, test creation and report templates
Referral network	Doctors, centers and center-specific mappings
Devices	Scanner configuration stored per workstation

Operational advantage

Structured configuration allows the same software base to reflect different laboratory naming, numbering, referral, specimen and reporting practices without redesigning the entire workflow.

Representative case formats can combine patient-type codes, sequence numbers and year conventions.

A focused workstation for high-value clinical work

Grossing mode turns the case record into a protected, distraction-light session with scan access, audio capture and structured output.

Search or scan | Record / pause | Safe draft | Session recovery | Foot-pedal ready | Voice commands

Session safeguards

- Continue an existing case session
- Warn when a case is already at a later stage
- Protect active work during navigation or tab closure
- Save before switching to a newly scanned case
- Local session persistence and lock handling
- Exit only after the save state is secure

Capture

Browser and desktop recording, live session state, audio attachment, recordings library and case-linked playback.

Assist

Transcription, formatting, retry behavior, structured gross report generation and compatibility with preferred AI models.

Review

Editable output, formatting workspace, microscopy templates, history and progression to pending microscopy or reported stages.

Hands-free desktop workflow

The Windows client adds physical-workstation features including voice-command coordination, command confirmations, audio telemetry, machine activation, device attestation, runtime protection, local session storage and pedal-oriented input support.

Clinical intent becomes trackable laboratory work

Technician workspace

- Pending and assigned work visibility
- Case-linked task context
- Accept, reject and complete lifecycle
- Mandatory reason when rejecting work
- Alert-led task updates
- Threaded text and audio-note communication

Specimen and block imaging

- Queue for missing required images
- Mobile-friendly camera capture
- Front and back block images
- Add blocks or slides after registration
- Multiple blocks/slides per case
- Reuse images during IHC selection and review

Structured task patterns

Deeper sections
Request additional tissue levels with block reference.

Re-processing
Send a case back for controlled rework.

Decalcification
Coordinate specialist preparation tasks.

Custom tasks
Support laboratory-defined operational needs.

Closed-loop coordination. The assigner and assignee receive lifecycle visibility, task messages remain attached to the relevant case, and the operational outcome becomes reviewable rather than disappearing into verbal or informal communication.

06 · IHC WORKFLOW

From clinical request to bottle-level consumption

The IHC module links case context, block selection, technician cutting and marker inventory in one traceable process.

Request

Select IHC test from the case.

Review block

View stored block images before assignment.

Select markers

See available quantity and add notes.

Cut

Technician starts and marks cutting complete.

Consume

Record drops against the open bottle.

Clinical and technician controls

- Configurable IHC tests
- One or more markers per request
- Text and audio notes
- Pending and completed workspaces
- Bottle QR scan to find pending cases for a marker
- Block image shown in the cutting workflow

Consumption integrity

- Drop-based recording with a defined volume conversion
- Deduction from the currently open bottle only
- One-open-bottle rule per marker
- Opening and closing dates and reasons
- Editable recorded drops
- Who, when and before/after values retained in audit history

Commercial differentiation

Many systems stop at ordering an IHC test. PenguinScribe extends the digital chain through physical preparation and actual consumable usage, enabling more accurate operational visibility and a richer case history.

Operational stock with financial context

Inventory foundation

- Categories and units
- Item master
- Vendor master
- Stock management
- Opening balances
- Bulk CSV onboarding

Procurement

- Procurement vouchers
- Vendor-linked purchasing
- Quantity and value visibility
- Allocation settings
- Closing-stock reporting
- Transaction history

IHC stock

- Multiple bottles per marker
- Bottle IDs and QR codes
- Open/close controls
- Quantity deduction by use
- Bottle-level opening balance
- Edit and audit support

Voucher and ledger surface

Receipts	Incoming settlement and ledger activity
Payments	Outgoing settlement workflow
Transfers	Movement between configured accounts
Purchases	Inventory procurement and posting
Journal / adjustments	Controlled financial corrections

Management reporting areas

- Balance sheet views
- Current assets and liabilities
- Cash accounts and sundry debtors
- Loans and closing stock
- Transaction statistics
- Billing configuration and discount approvals

Designed for the device used at each step

Web

Complete operations platform

LIMS, grossing, reports, tasks, technician workspaces, inventory, finance, administration, analytics, audit, support and configuration.

Windows

Dedicated grossing client

A native workstation experience with audio, voice-command coordination, activation, attestation, session persistence and runtime safeguards.

Android

Mobile recording workflow

Native sign-in, hands-free commands and recording service behavior for mobile clinical and laboratory use.

Scan-aware interaction

- Generate and resolve patient/case barcodes and QR codes
- Support keyboard-emulating scanners at workstations
- Store scanner preferences per browser/computer
- Open grossing and image workflows from scanned identity
- Use bottle QR codes within the IHC process

Communication and engagement

- Notifications and task alerts
- Support messaging and administrative response
- Product updates and in-app status
- Usage views and company billing requests
- Referral workflow and terms surface

A single product family, adapted to reception desks, grossing stations, technician benches, mobile capture and central administration.

Multi-company control without losing local autonomy

Operational roles

Superadmin	Platform, company, machine, payment and policy oversight
Company admin	Tenant users, access and configuration
Doctor / pathologist	Cases, grossing, reporting and clinical requests
Technician	Assigned tasks, capture, cutting and IHC work
Operational user	Granted pages and actions within the company boundary

Superadmin capabilities

- Company lifecycle and plan/limit oversight
- User and privileged-admin management
- Machine registration, activation and deactivation
- Payments, analytics and audit views
- Support, custom mail and product updates
- Database viewer and LIMS-mode controls
- Data and storage provider configuration
- Company data copy and controlled deletion workflows

Tenant isolation

User, media, transcription and operational records carry company context, with API and interface checks enforcing boundaries.

Permission depth

Role and page-level permissions allow organizations to expose only the workflows appropriate for each user.

Machine governance

Desktop clients use activation, fingerprinting and revocable access to associate approved users with approved machines.

Built for laboratories where connectivity cannot stop work

The platform can route operational data and files between local infrastructure and managed cloud services.

This hybrid model supports cloud-connected SaaS deployments, locally controlled installations and local-first workflows that synchronize when connectivity returns.

Local-first behavior

- Local relational database support
- Local file and audio storage
- Offline login for eligible users
- Local session and lock handling
- Queue writes for later synchronization
- Retry, cancel and diagnostics for pending items

Data routing

Independent read/write policy for database and file operations, with an option to maintain local and remote copies.

Backup & restore

Scheduled and on-demand backups, downloads, restore flow and an emergency recovery surface.

Recovery safeguards

Draft protection, session locks, sync diagnostics and explicit handling of stuck work reduce operational data-loss risk.

Deployment flexibility. The architecture can be adapted to a buyer’s preferred hosting, identity, database, object-storage and AI-model strategy. Final topology should be validated against customer scale, data residency, availability and compliance requirements.

Layered controls across identity, tenant, device and data

Identity & sessions

- Verified identity tokens
- Server-tracked sessions
- Concurrent-session conflict handling
- Offline authentication path
- Reauthentication for sensitive actions

Application protection

- Role and permission checks
- Tenant-scoped authorization
- Request rate controls
- Origin and request-context checks
- Browser security headers

Desktop protection

- Machine fingerprints
- Challenge and attestation flow
- Short-lived desktop sessions
- Lockout tracking
- Revocation and cleanup processes

Auditability

- Platform and company audit views
- Actor, action, target and metadata patterns
- Task and inventory change histories
- Desktop authentication and lockout events
- Administrative action visibility

Secrets and data safety

- Encrypted provider configuration at rest
- Production secret-manager policy support
- Private media access patterns
- Deny-by-default data rules with scoped exceptions
- Backup, restore and emergency recovery controls

Important diligence note

These are implemented product controls observed in the repository, not an external security certification. A production transaction should include penetration testing, dependency and secret scanning, privacy review, disaster-recovery testing and jurisdiction-specific compliance assessment.

Multiple routes to market from one product base

Laboratory SaaS

Recurring subscriptions by organization, site, user, machine, case volume or feature tier.

Enterprise license

Private or hybrid deployment with implementation, migration, support and annual maintenance.

White-label platform

Buyer-owned branding, localization, model choice and market-specific integrations.

Potential expansion revenues

- Implementation and data migration
- Workflow configuration and report templates
- Desktop workstation licensing
- Premium backup, analytics and support
- Integration services for hospital and laboratory systems
- Usage-based transcription and document intelligence
- Additional mobile capture and field workflows

Buyer value creation

- Shorter product-development lead time
- Established workflow breadth
- Reusable multi-tenant foundation
- Local and cloud deployment options
- Provider-neutral AI strategy
- Cross-sell from LIMS into grossing, IHC and inventory
- Opportunity to package features by customer maturity

Commercial discipline: pricing, unit economics, market size and forecast assumptions should be built from validated customer interviews, support costs, model usage, hosting requirements and the buyer's geographic strategy. This book intentionally does not invent those figures.

A broad product base with a clear path to scale

Capabilities already present

- Deep web application and API surface
- Native Windows grossing client builds
- Native Android recording workflow
- Multi-company administration
- Local/cloud data-routing framework
- Backup, restore and emergency recovery
- Machine activation and desktop hardening
- LIMS, IHC, inventory and finance modules

Recommended next-stage validation

- Formal end-to-end quality assurance matrix
- External clinical workflow review
- Performance and concurrency benchmarks
- Security and privacy assessment
- Deployment automation and observability
- Customer onboarding playbooks
- Usage analytics and value dashboards
- Integration specifications and partner APIs

Suggested 12-month product program after acquisition

PHASE	FOCUS	OUTCOME
0–90 days	Technical audit, security hardening, QA, packaging and reference deployment	Transaction-ready baseline and repeatable installation
3–6 months	Pilot laboratories, workflow tuning, analytics and support process	Validated product-market evidence and implementation model
6–9 months	Interoperability, localization, enterprise identity and migration tooling	Broader addressable customer set
9–12 months	Automation, benchmarking, partner ecosystem and scalable commercial tiers	Repeatable growth platform

What a buyer should validate and what the asset includes

Technical diligence checklist

- Source ownership and third-party license review
- Environment, secrets and credential rotation
- Production data migration and retention policies
- Dependency, vulnerability and penetration testing
- Test coverage and release reproducibility
- Backup restoration and failure simulations
- Capacity, latency and cost benchmarking
- Mobile and desktop signing/distribution process

Commercial diligence checklist

- Customer contracts and active deployments
- Pipeline, pricing and renewal evidence
- Implementation and support effort per site
- Regulatory and data-residency obligations
- Brand, domain and intellectual-property transfer
- Team transition and key-person dependencies
- Roadmap commitments and customer-specific forks
- Model and infrastructure usage economics

Indicative software asset scope

Web application and APIs; LIMS and case workflows; grossing and reporting workspaces; technician, task and IHC modules; inventory, finance and administration; native Android application; Windows desktop client and build artifacts; local database and synchronization utilities; data-security rules; backup and recovery flows; deployment configuration; product documentation; marketing collateral and brand assets—subject to legal verification and an agreed transaction schedule.

Claims boundary

Feature presence does not itself establish production readiness, clinical validation, regulatory status, interoperability certification, service availability, active usage or financial performance. Those items require separate evidence during diligence.

CLOSING PERSPECTIVE

A connected pathology platform.

Built around real laboratory work, designed for flexible deployment, and ready to evolve with your preferred AI models.