Indian Foundation For Quality Management

Kalpion

A digital platform that turns everyday employee ideas into measurable improvement.



Redefining Quality

Why Kalpion?

The people closest to the work see the waste first. Yet, grassroots insights are lost daily because plants lack a transparent, digital pipeline to capture, route, and measure frontline observations.

Challenge 01 | Unrecorded Frontline Waste.

Line operators witness daily operational waste firsthand... Moreover, Without a simple, immediate way to log these observations on the spot, they are never written down, and chronic floor inefficiencies persist indefinitely.

Challenge 02 | The Suggestion 'Black Hole'.

Traditional physical suggestion boxes on the plant floor are rarely opened... High-value employee ideas simply gather dust, quickly teaching teams that submitting suggestions is a waste of effort.

Challenge 03 | The Feedback Vacuum.

Submitting employees are left completely in the dark regarding their ideas' status...With no tracking, workers receive zero recognition, which breeds disengagement and kills the plant's continuous quality culture.

ALIGNED WITH IFQM PURPOSE.
Main Statement: "To operationalize a continuous quality culture and enhance the quality of life on the shop floor, giving those closest to the work a direct, respected voice."
IFQM Global Vision Alignment: Fostering continuous quality improvement to "Enhance Prosperity and Quality of Life for All."



Introducing Kalpion

The foundation for institutional quality: standardizing daily execution and continuous Kaizen.

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THE ENTERPRISE SYSTEM FOR CONTINUOUS IMPROVEMENT

Kalpion acts as the digital engine for managing grassroots continuous improvement, capturing shop-floor ideas instantly, and transparently routing them to execution.

1 Capture (6-Stage Idea Journey)

Stage 01 | Draft
Private floor capture saved on the employee's local device.

Stage 02 | Submitted
Permanent unique ID issued; manager notified; review SLA clock starts.

Stage 03 | Under Review
Line managers or Quality Committees actively evaluate and score the idea.

Stage 04 | Approved
Idea accepted; submitting employee and department earn leaderboard points.

Stage 05 | Push to QCMS
Direct administrative handoff to Quality Circle Management systems.

Stage 06 | Implemented
Improvements are executed on the shop floor and realized financial ROI is audited.

2 Empower (7 Grassroots Tools)

Multilingual Sign-In
Seamless floor access and entry wizards localized in 7 Indian languages.

Mobile Floor Capture
Attach live shop-floor photo proof or documents directly to the idea card.

Joint Co-Suggesters
Name and credit co-authors on submissions to share leaderboard glory.

Idea Board Voting
Peer-to-peer voting allowing colleagues to browse and upvote line ideas.

5-Star Peer Ratings
Frontline teams rate the strength, impact, and clarity of active floor ideas.

Gamified Points
Earn +10 for submission, +25 for approval, and and +65 for successful implementation.

Targeted Challenges
Drive localized focus through time-boxed plant campaigns like "Safety Month".

3 Govern (Review Gates)

Objective 6-Dimension Scoring:
A deterministic heuristic algorithm automatically rates Problem Clarity, Specificity, and Feasibility (out of NID) to strip out reviewer bias and prioritize high-value ideas.

SLA Queue Alerts & Warnings:
Automatic overdue notifications and systematic escalations up the organizational tree guarantee that no frontline submission is bottlenecked or ignored.

Strict Separation of Powers:
Organization Admins can configure workflows but are structurally barred from approving or rejecting ideas to keep the adjudication process completely objective.

Why we built Kalpion — and what keeps it working

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THE STRATEGIC GOAL. To operationalize a continuous quality culture (Kaizen) on the plant floor, driving enterprise prosperity, waste reduction, and shop-floor quality of life.

THE THREE INPUTS

Frontline Employees
Capture daily floor observations, photo proof, and co-suggesters instantly on mobile or desktop in their local languages.

Reviewers & Managers
Provide domain expertise, evaluate ideas, record 6D scores, and manage implementation timelines.

Organisation Admins
Map hierarchies, customize approval workflows, sot SLAs, and monitor org-wide cultural analytics.

One uneditable audit record per idea.

SaaS Database Core:
Every decision, comment, and escalation is stored permanently with timestamped names, blocking any database-crossing leaks.

THE THREE OUTCOMES

Objective Adjudication
The deterministic 100-point quality score prioritizes ideas and strips away personal reviewer bias.

SLA-Driven Momentum
Automatic overdue notifications and systematic escalations completely clear management review bottlenecks.

Audited Cost Savings
Realised financial savings (recorded in paise) are validated and tracked against original business case estimates.

ONE QUALITY CULTURE

A unified, continuous quality pipeline on the floor-improvement-execution flow.



Employee (shop floor worker) | Manager (review chain) | Organisation Admin setting workflows

WHAT KEEPS THE DATA GOOD

Isolation by Design
Strict physical database-per-tenant isolation model structurally blocks any cross-company data leaks.

Deterministic Quality
Built-in heuristic algorithm (out of 100) filters out floor noise and duplicate tities before submission.

Multilingual Respect
Prontline sign-in and wizards in 7 local Indian languages honor and empower shop-floor expertise.

Rigorous Verification
Entire platform validated by an automated suite of 602 functional test cases at a 100% pass rate.

AND IT COMPOUNDS

Frontline staff submit ideas → Managers actively review & implement → Leaderboard points & ROI publish → Trust in the platform grows

which motivates more high-value, active submissions from the shop floor.

How Kalpion works

From configuring custom approval chains to implementing verified, high-impact suggestions on the shop floor.



ORG ADMIN 01

Configure Workflows

- **Import Employee Database:** Securely upload and map employee directory lists via spreadsheet buik import.
- **Design Custom Approval Chains:** Define approval stages from 8 nested roles (Originator → Immediate Manager → Team Lead → Project Lead → Dept Manager → Sr Manager → Plant Head → Executive).
- **Configure SLA Deadlines:** Set exact review windows allowed for each stage before overdue alerts trigger.

EMPLOYEE 02

Capture & Submit

- **6-Step Guided Wizard:** Frontline operators draft suggestions on mobile or desktop in 7 local Indian languages.
- **Attach Shop Evidence:** Take and upload real-time photos of line stoppages, coolant leaks, or safety hazards.
- **Joint Co-Suggesters:** Co-author submissions to share credit and split gamified leaderboard points.

SYSTEM CORE 03

Evaluate & Route

- **Deterministic Heuristic Scoring:** Assess ideas across 6 core quality dimensions to generate an objective score out of 100.
- **Auto-Map Reporting Lines:** Read the submitter's database profile and identify their specific line manager.
- **Active Route Initiation:** Run duplicate checks and inject the idea into the first active reviewer's queue.

REVIEWERS 04

Dynamic Escalation

- **Walk Up the Hierarchy:** Approving an idea automatically escalates it to the next designated tier in your chain.
- **Dual Review Workflows:** Route ideas through a standard line-manager chain or cross-functional Committee Review (unanimous sign-off).
- **Final Approval Milestone:** Ideas remain in secure "Under Review" state until final authority in the chain signs off.

ORG ADMIN 05

Push & Measure

- **1-Click QCMS Integration:** Push approved ideas directly to Quality Circle systems (like OctaQube) for execution.
- **Record Real ROI:** Implementation teams track floor execution milestones and log audited financial savings in paise.
- **Leaderboards Update:** Distribute gamified points (+10 capture, +25 approval, +65 implementation) to site-wide boards.

COMPLIANCE & OBJECTIVITY

A permanent, uneditable audit trail records every submission, comment, hierarchical escalation, and final approval decision with timestamped names across all tenant database boundaries.

High-Level Platform Architecture

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A stateless, multi-tenant SaaS architecture utilizing a physical database-per-tenant isolation model ('Isolation by Construction') to guarantee absolute enterprise data confidentiality and compliance.

Presentation Layer
Responsive Web
Role-based Dashboards

Access & Delivery
Web / Mobile Access
Secure Delivery

Security
JWT Authentization
RBAC, RLS, Audit Logs
Data Encryption

Infrastructure
Cloud / Containerized
High Availability
Auto Scaling

Organisation Admin

Manage users, bulk import spreadsheets, structure reporting hierarchies, configure review SLAs, and monitor overall plant adoption analytics.

Reviewer / Manager

Access active Review Queues, evaluate ideas, record 6D quality scores, leave decision comments, and manage escalations or committee reviews.

Employee / Trainee

Use the 6-step submission wizard, add co-suggesters, upvote/downvote ideas, participate in site challenges, and track points on the leaderboard.

HTTPS (SSL Secured)

Dashboard & Quotas
Tracks active tenant request volume and storage-caps

6-Stage Workflow
Enforces Draft to implemented sequentist progression

6-Step Submission Wizard
Guides scoping, solution design, and craulting

Joint Co-Suggesters
Collaborative colutions and gamified leaderboard

Documents & Attachments
Floor photos, spreadsheate, PDFs directly to ideas

Notifications & Alerts
Real-time bell, SMS, email digests

Heuristie Evaluator
Ratus lahes out of 100 on specificity, sctionability

Threaded Comments
Contect-preseexing collaboration space

Reports & CSV Export
Generated trackers, sheets, commaries

Audit Logs & Timeline
Documents timestamped decisions at every step

Settings & Configuration
Administrators-toggle features and set SLAs

Help & Support
Dust-ivtage ticketing system for platform bugs.

8-Stage Idea Journey Engine

1. **Draft:** Private local floor capture saved on device.
2. **Submitted:** Permanent unique ID issued; manager is notified; SLA clock starts.
3. **Under Review:** Hierarchical routing or cross-functional Committee evaluation.
4. **Approved:** Idea accepted; submitter and department carn gamified points.
5. **Push to QCMS:** Administrative 1-click handoff to execution tools.
6. **Implemented:** Physical floor installation completed and realized ROI audited in paice

BACKEND SERVICES (Express REST Engine)

- API Gateway & Routing (Express)
- Auth Service (JWT)
- User & Role Service
- Workflow & SLA Engine
- Business Logic & Policy Service
- Notification Service
- Report & Export Service
- Deterministic Evaluator Service

DATA & STORAGE LAYER

- **MySQL Master DB (ifgm_master)** — Central registry, lookup index, support tickets.
- **MySQL Tenant DBs (ifgm_tenant_n)** — Physically isstated schemas, users, ideas, comments.
- **Persistent File Storage** — Local/cxternal object storage, non-executable user attachments.
- Local Process Cache
- Backups & Snapshots
- Immutable Audit Logs

CLOUD INFRASTRUCTURE

- Server Hosting (Render Service)
- Vite Static CDN Delivery (Vercel)
- Reverse Proxy & TLS Termination
- Single active instance fail-soft design
- Morgan & Winston structured server logging
- Scheduled db-and-disk offsite backups

INTEGRATIONS

SMTP & ZeptoMail
Transactional platform emails, automatic HTTPS failback

Kaleyra / Jio DLT SMS
Secure RTP delivery matching registered carrier templates.

Local & Object File Storage

QCMS API Export (OetaQube): 1-way REST poch of approved aleas aares mocked, per tenant keys.

AI Scerer Follback
Integrates OpenSH Gendni evaluation with native heurieriefullhack.

Physical Database-per-Tenant Isolation: Structurai Scad database boundaries completely eliminate any risk of cross-tenent data locks.

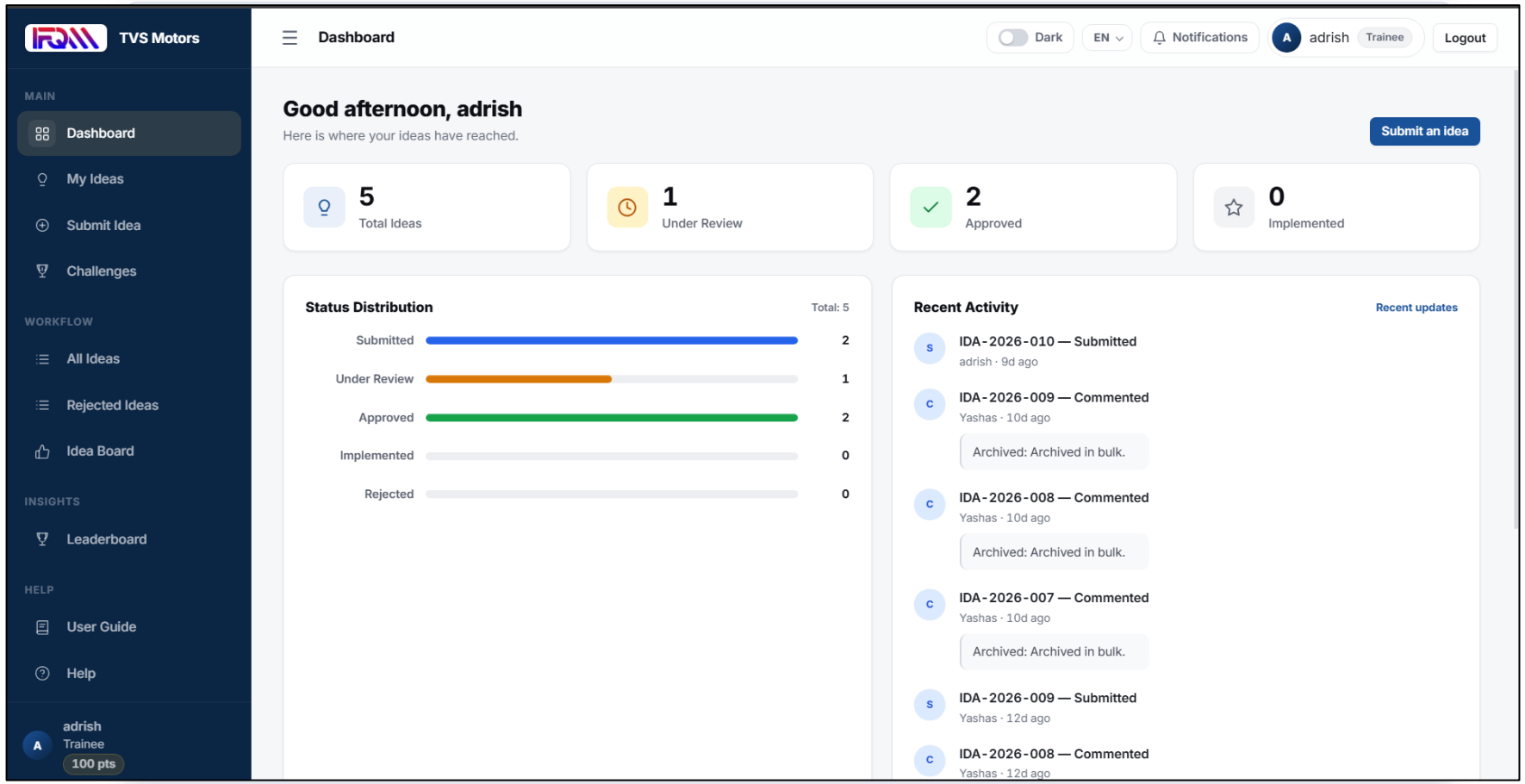
- User Interaction / Access
- External Integration
- Data / OB Connection
- Infrastructure / Deployment

Validation based on an automated suite of 602 functional test cases.

The Employee Experience

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Everything an employee needs on one screen: raise an idea, follow it up the chain, and see what it earned.

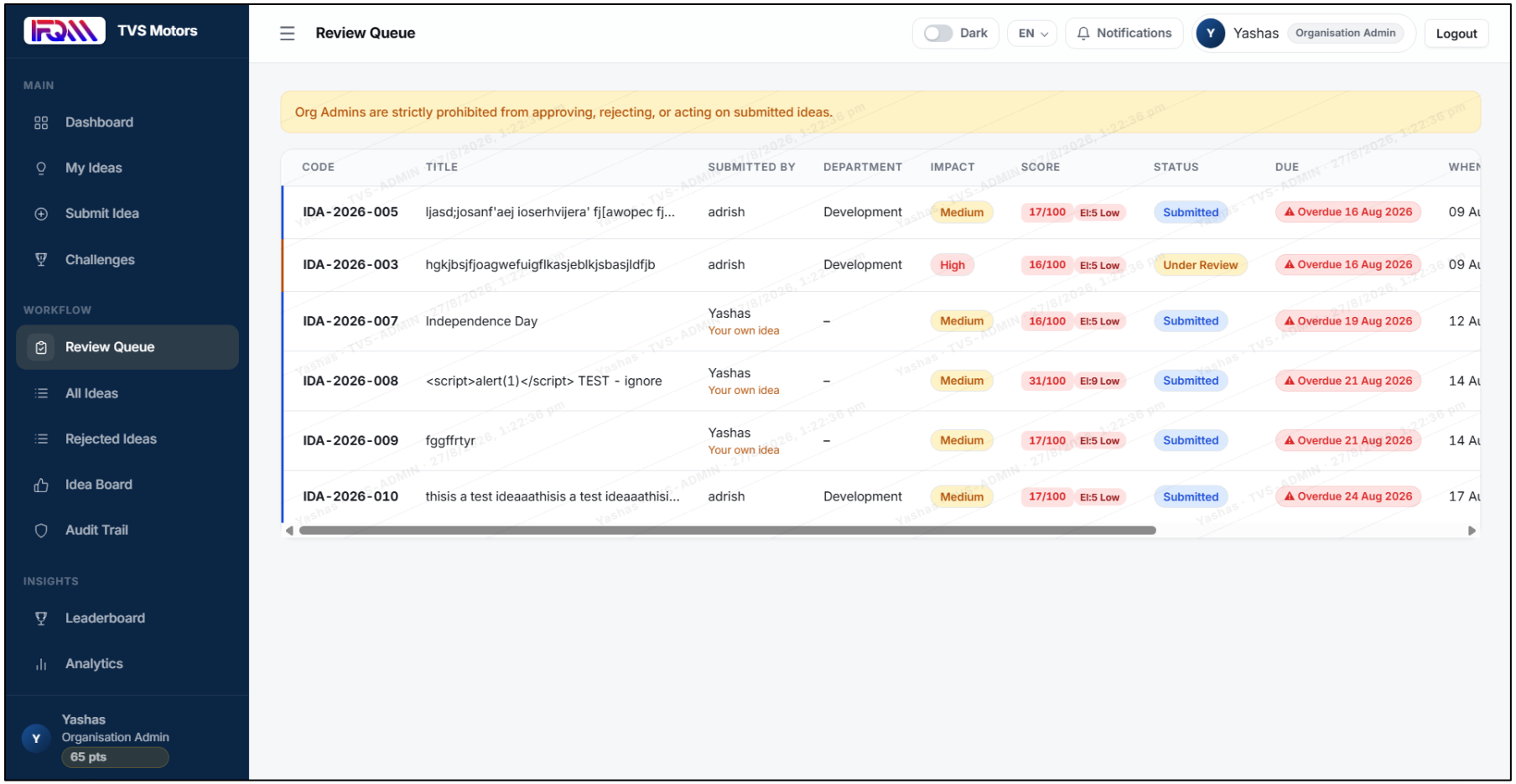


AT A GLANCE

- **Submit in minutes**
- **Follow every step**
- **Points and badges**
- **Community board**

Review and Approval

Reviewers see exactly what is waiting on them, how long it has waited, and who it goes to next.

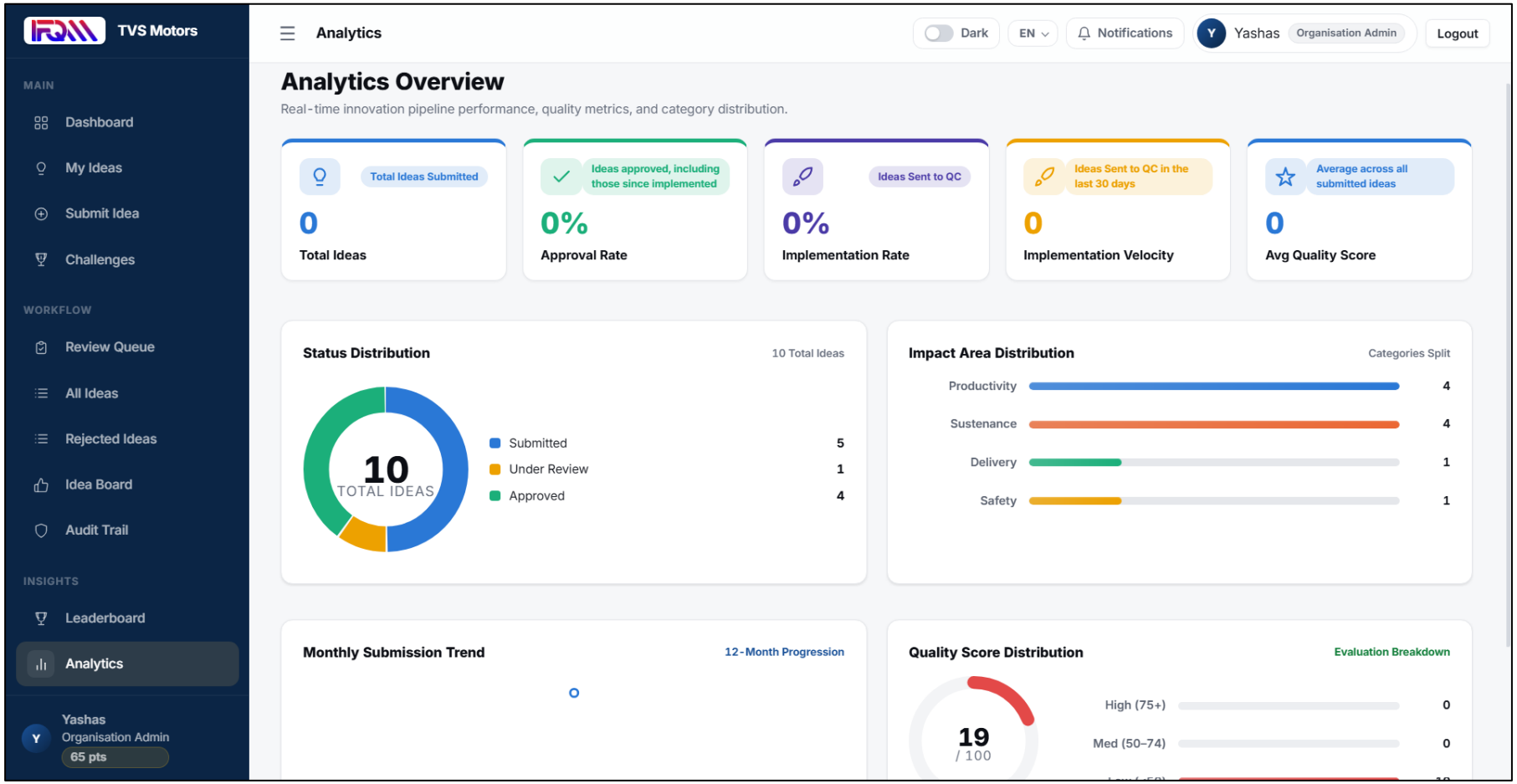


WHAT A REVIEWER DOES

- **One clear queue**
- **Score and comment**
- **Approve or escalate**
- **Overdue flagged**

Organisation Analytics

Where ideas come from, how fast they move, and what they are worth.



WHAT AN ADMIN CAN SEE

- **Approval rate**
- **Implementation rate**
- **Quality score**
- **Department view**

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Thank You

