

# AI-Powered Smart Workforce Allocation & Timesheet Optimizer

## 1. Idea Title

AI-Powered Smart Workforce Allocation & Timesheet Optimizer

## 2. Brief Summary

An AI-driven platform that automates workforce allocation and timesheet management. It uses AI/ML and generative AI to recommend best-fit associates for projects, auto-suggest timesheet entries from work activities (meetings, commits, tasks), detect anomalies, and provide real-time dashboards for managers.

## 3. Challenge/Business Opportunity & Scalability

Challenges: Manual timesheet entry, sub-optimal allocation, lack of predictive resourcing view.  
Opportunities: Save hours across TCS by automating timesheet capture, improve utilization rates, and scale as a product offering for clients in BFSI, healthcare, and manufacturing.

## 4. Novelty, Benefits & Risks

Novelty: Combines LLMs for smart timesheet filling with ML for workforce forecasting. Integrates with enterprise tools (Ultimatix, JIRA, Outlook, GitHub). Benefits: 30–40% reduction in manual effort, improved compliance, higher utilization. Risks: Privacy concerns, resistance to adoption – mitigated by encryption and human-in-loop.

## 5. Responsible AI Principles

Security: End-to-end encryption, SSO integration. Fairness: Unbiased allocation recommendations. Privacy: Project-level insights without micromanagement. Compliance: Aligns with labor laws and client contracts.

## 6. Tech Approach & Architecture

Architecture includes: - RAG + LLM for timesheet suggestions. - ML algorithms for skill-matching & optimization. - Integration APIs with HRMS, Ultimatix, project trackers. - Real-time dashboards for managers.

## 7. Development Timeline

Phase 1 (2 weeks): Proof of Concept. Phase 2 (6–8 weeks): MVP development. Phase 3 (12 weeks): Pilot within 1 TCS unit. Phase 4: Enterprise rollout and client productization.

## **8. Success Metrics**

- % reduction in timesheet manual effort. - Increase in utilization rate. - Reduction in bench hours. - Higher compliance rates.

## **9. Scalability Potential**

Internal: 100k+ associates across TCS. External: Clients with large workforce operations in BFSI, healthcare, IT outsourcing.