Atal Monitoring Portal (AMP)

A Case Study on a unified, intelligent, and scalable platform that empowers Chhattisgarh's leadership to monitor, rank, and drive scheme performance in real time.

CSM Technologies

Govt. of Chhattisgarh

> **This dynamic platform integrates data pipelines, applies composite scoring, and surfaces actionable insights enabling responsive, accountable, and data-driven governance across departments.**
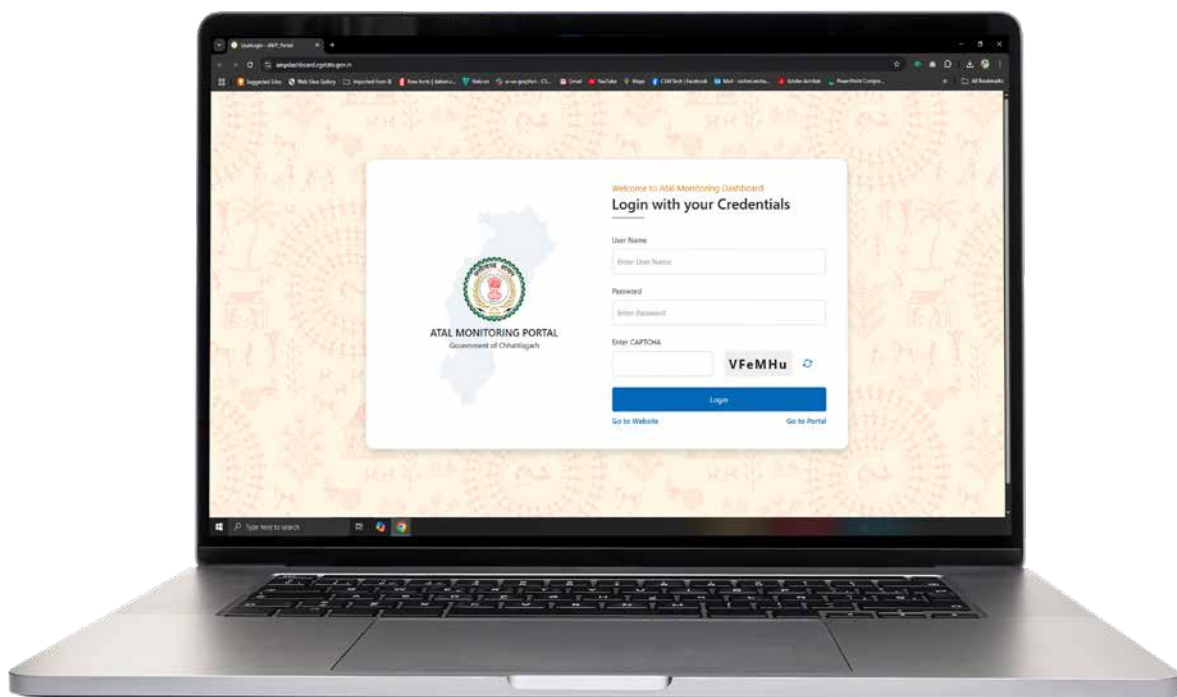
Introduction

Modern governance operates in a landscape shaped by information. Every policy, scheme, and program generates streams of data that support effective governance operations. From physical and financial progress updates to service-level metrics, departments across the administrative spectrum contribute to an increasingly data-rich environment. While each input holds value, its true potential emerges when information is consolidated, structured, and delivered for timely decisions.

To support this shift, governments are embracing robust data infrastructure, including ETL pipelines, validation engines, and intelligent dashboards. These technologies allow data to be ingested as-is, refined where necessary, and visualized in ways that support governance goals. By enabling seamless integration and rule-based analytics, such platforms provide a common lens through which leadership can review performance across departments.

In this context, a state monitoring framework was envisioned to unify reporting across departments, apply standard performance logic, and convert raw data into actionable insights. By combining intelligent scoring mechanisms with intuitive dashboards, the system enables transparent, evidence-based governance aligned with real-world progress.

Challenges

Realizing the vision of a unified state monitoring framework required addressing several practical challenges in the way departments captured, structured, and shared performance data. With the expansion of digital reporting and the adoption of scheme-specific monitoring tools, the volume and variety of data generated across the governance ecosystem increased significantly.

Data flowed in from multiple departments, schemes, and geographies-each using different formats, update frequencies, and levels of detail-which made it difficult to align and consolidate this information for timely action and integrated performance reviews.

What emerged was a need for a system that could assist departments in managing this complexity, and offer leadership a reliable, real-time picture of scheme performance. Key operational challenges included:

Diverse Reporting Formats
Departments used varied templates and reporting tools, making data aggregation resource-intensive.

Unstructured and Semi-structured Data Inputs from Excel, APIs, and field-level submissions needed standardization to support integrated analysis.

Non-uniform Frequencies
Schemes followed different reporting cycles (monthly, quarterly, ad hoc), limiting synchronicity in reviews.

Multiple Indicators Without Alignment Performance indicators differed across departments, limiting comparative insight across schemes.

Manual Dependencies
Spreadsheet-based reporting workflows often required verification and re-entry at various levels.

Limited Real-time Access
While departments collected data regularly, leadership lacked a centralized interface to view updated scheme progress.

Siloed Insights Without a common platform, scheme-level findings remained confined to departments, reducing opportunities for cross-sector learnings.

Need for Data Validation
Ensuring completeness, accuracy, and timeliness of reported data required a structured quality scoring mechanism.

The focus, therefore, was not on identifying gaps, but on creating a system that could align with existing workflows, elevate data to decision-grade quality, and support departments in presenting their work more effectively to leadership.

Solution

To address the structural and coordination challenges in performance tracking across departments, the Government of Chhattisgarh, in collaboration with CSM Tech, developed the Atal Monitoring Portal (AMP), a unified performance monitoring framework designed to bring together data in a timely, standardized, and review-ready form.

CSM Tech played a key role in conceptualizing and implementing AMP, building a robust system that consolidates interdepartmental reporting, enforces data consistency, and delivers real-time insights to administrators across all levels. The portal, accessible at https://cgamp.cgstate.gov.in, enables streamlined monitoring of multiple schemes through trusted and validated datasets, supporting timely and evidence-based interventions.

To accommodate existing departmental workflows, CSM enabled AMP to support a dual-mode data entry model, allowing seamless integration from various sources. Submitted data is automatically refined for accuracy and uniformity. Scheme performance is evaluated using both scheme-specific Key Performance Indicators (KPIs) and a Data Quality Index (DQI), a dual-assessment approach that ensures decision-makers can evaluate not just performance outcomes but also the reliability of the underlying data.

The backend configurability through modular components such as Scheme Master, KPI Master, and Data Source Master empowered departments to define baselines, reporting units, frequencies,

and officer hierarchies for major schemes like PMAY, Mahatari Vandan Yojana, and Ayushman Card. This metadata-driven design ensures flexibility without sacrificing standardization, making it possible to tailor evaluations while maintaining a unified state-wide review system.

The AMP dashboard hosted at the State Data Centre and leverages technologies like Tableau and Hangfire to provide a secure, role-based portal. It is used extensively by administrators at the state, district, and block levels. Features like drill-down filters, trend analysis, and export-ready scorecards make structured reviews more actionable, enabling leadership to identify both best-performing areas and those requiring targeted support.

By unifying fragmented reporting and embedding intelligent performance logic, AMP, built by CSM Tech, has transformed monitoring in Chhattisgarh into a continuous, insight-driven governance process. The system's core objectives continue to guide its implementation and future roadmap.

Objective

The monitoring framework has been designed to strengthen real-time, data-driven governance by helping departments track performance, improve coordination, and ensure that progress is both measurable and review-ready.

Centralize multi-source scheme data:
Create a common repository for all scheme-related information.

Monitor performance across all tiers:
Dashboards allow each administrative level to track progress relevant to its scope.

Enable KPI-based scoring and ranking:
Monthly scheme and district-level rankings aid comparative governance.

Support data quality enforcement:
Introduce automated validation logic and scoring to promote granularity, completeness, and timely data submissions.

Facilitate insight-led decision-making:
Offer visualizations, alerts, and filters that help departments identify trends and act where timely support is needed.

Promote accountability through transparency:
Make progress data accessible, comparable, and structured in a way that supports evidence-based review at every level.

Key Features

These objectives are realized through a set of integrated features that ensure consistency, insight, and scalability. The monitoring framework brings together operational data, quality scoring, and real-time dashboards to support responsive, evidence-based governance. Each feature is aligned with the broader objective of creating a unified performance view across schemes and departments.

Composite Scoring with DQI

The platform calculates a composite score combining KPI achievement (70%) and data quality (30%), enabling balanced performance evaluation.

Monthly Scheme and District Rankings

Support comparative reviews across departments and geographies, driving targeted action and accountability.

Flagship Scheme Tagging

Schemes can be flagged for focused review, allowing dashboards and reports to prioritize high-impact programs during evaluations.

KPI Trend Indicators

Each KPI is marked as positive or negative based on how its values impact performance, ensuring trends are interpreted correctly during reviews.

Drill-Down Dashboards

Role-based dashboards provide access at the state, district, and block levels with filters to explore monthly trends and geographic variations.

Transparent Score Contribution

Users can view which submitted data points contributed to the score and which did not, improving accountability and submission quality.

Scheme Profile View

Each scheme has a profile displaying indicators, reporting cycles, and nodal officer details, offering a consolidated view for easy reference.

Web-Based Data Entry Module

Departments have flexibility to upload scheme data using predefined Excel templates or integrate via secure APIs, while promoting a transition toward automated, real-time reporting.
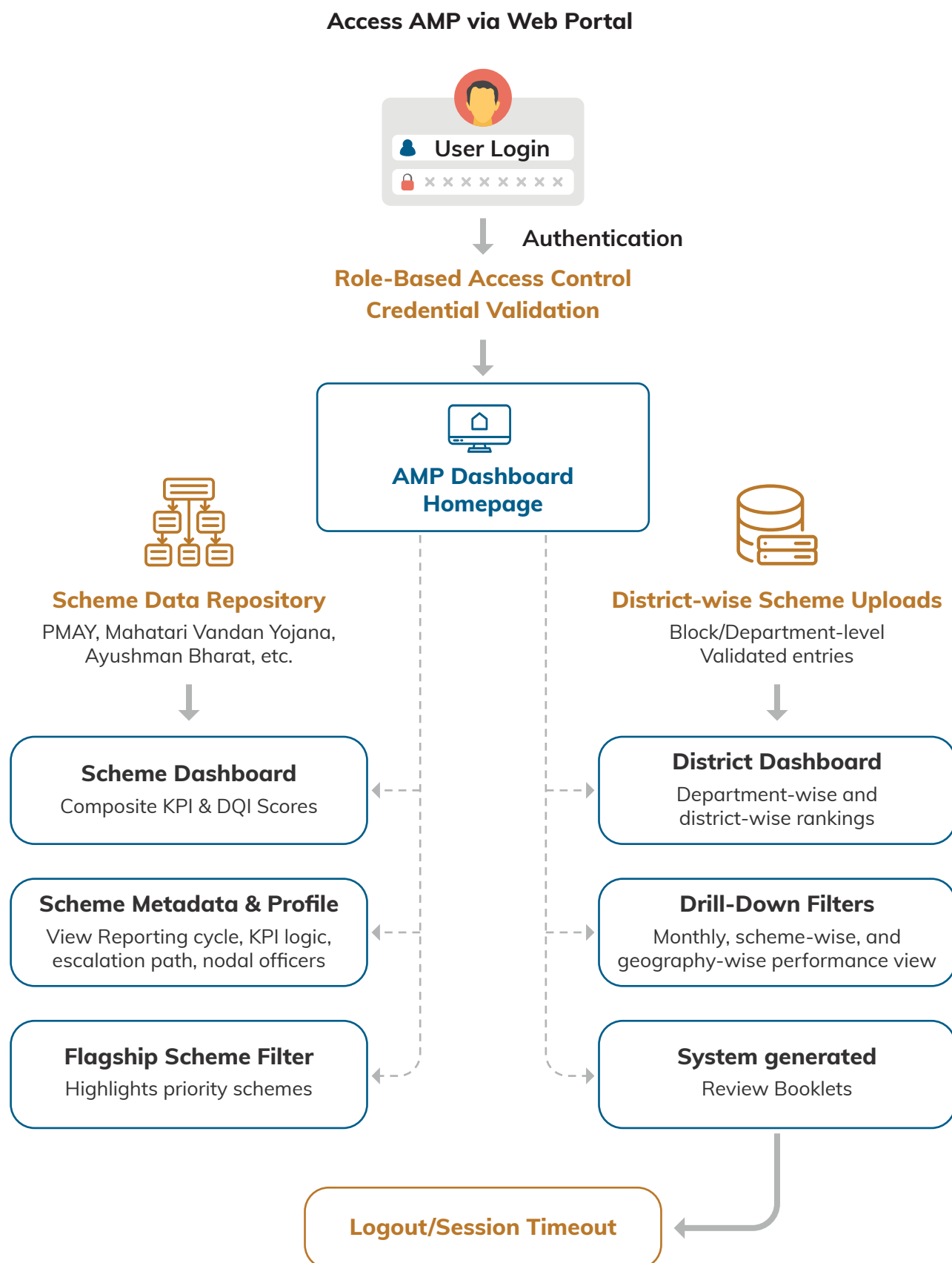
ETL Pipeline & Calculation Logic

An integrated ETL engine processes data from multiple sources into a standardized format. A calculation module applies pre-set rules to compute monthly KPI scores across schemes.
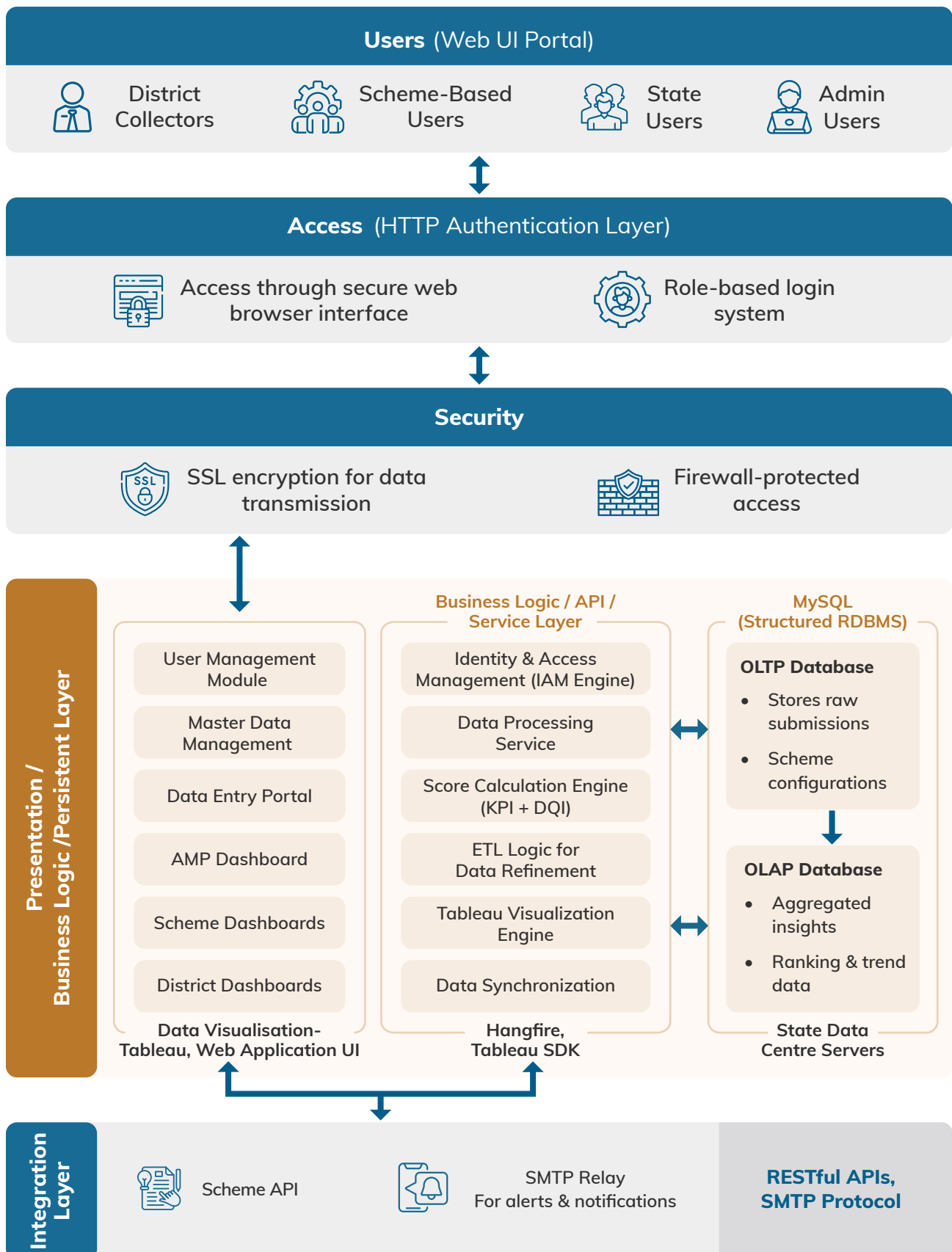
Leadership-Focused Scheme Reporting

Enables the Hon. Chief Minister, CMO, and departmental officers to review scheme performance and make data-backed decisions for timely interventions.

AMP Dashboard Process Flow

Access AMP via Web Portal

User Login
× × × × × × × × ×

Authentication

Role-Based Access Control
Credential Validation

AMP Dashboard
Homepage

Scheme Data Repository
PMAY, Mahatari Vandan Yojana,
Ayushman Bharat, etc.

District-wise Scheme Uploads
Block/Department-level
Validated entries

Scheme Dashboard
Composite KPI & DQI Scores

District Dashboard
Department-wise and
district-wise rankings

Scheme Metadata & Profile
View Reporting cycle, KPI logic,
escalation path, nodal officers

Drill-Down Filters
Monthly, scheme-wise, and
geography-wise performance view

Flagship Scheme Filter
Highlights priority schemes

System generated
Review Booklets

Logout/Session Timeout

Solution Architecture

Users (Web UI Portal)

District Collectors · Scheme-Based Users · State Users · Admin Users

Access (HTTP Authentication Layer)

Access through secure web browser interface · Role-based login system

Security

SSL encryption for data transmission · Firewall-protected access

Presentation / Business Logic /Persistent Layer

Presentation / Business Logic /Persistent Layer	Business Logic / API / Service Layer	MySQL (Structured RDBMS)
User Management Module	Identity & Access Management (IAM Engine)	**OLTP Database** • Stores raw submissions • Scheme configurations
Master Data Management	Data Processing Service	
Data Entry Portal	Score Calculation Engine (KPI + DQI)	
AMP Dashboard	ETL Logic for Data Refinement	**OLAP Database** • Aggregated insights • Ranking & trend data
Scheme Dashboards	Tableau Visualization Engine	
District Dashboards	Data Synchronization	
Data Visualisation- Tableau, Web Application UI	Hangfire, Tableau SDK	State Data Centre Servers

Integration Layer

Scheme API · SMTP Relay For alerts & notifications · **RESTful APIs, SMTP Protocol**

Impact & Unique Strengths of AMP

Collectively, these features have translated into measurable impact and platform-wide strengths.

- ◘ **25 departments onboarded** Strengthens cross-department coordination on scheme monitoring.

- ◘ **100+ schemes monitored** Enables holistic oversight of state programs in one place.

- ◘ **88 KPIs defined** Standardizes performance logic across schemes and sectors.

- ◘ **36+ integrated data sources** Consolidates diverse inputs for consistent, validated analysis.

- ◘ **22 schemes integrated via APIs** Ensures real-time data flow and reduces manual reporting effort.

- ◘ **Composite scoring with auto-generated rankings**

- ◘ **Real-time dashboards** Available for every administrative tier.

- ◘ **Used in official review forums** Forms the basis of data-backed governance.

- ◘ **Trend-based visuals and KPI tagging** Highlight performance dips and improvements.

- ◘ **Scheme comparison tools** Enable inter-district and inter-scheme analysis.

- ◘ **Booklet generation** Offers downloadable summaries for review meetings.

- ◘ **Metadata-driven configuration** Enhances dashboard context and clarity.

"

CSM Technologies is a pioneering GovTech organization that harnesses the power of existing and emerging technologies to provide solutions with a tangible impact on the efficiency of governance and quality of citizens' lives.

CSM Technologies is a pioneering Tech Services organization that harnesses the power of existing and emerging technologies to provide solutions with tangible impact on efficiency of governance and quality of citizens' lives.

CSM Technologies (HQ)

E/56, Infocity, Chandrasekharpur
Bhubaneswar, Odisha - 751024
Tel: +91-674-6635 903
Email: info@csm.tech
Website: www.csm.tech

CSM Technologies

903, 9th Floor, Bhikaji Bhawan,
Bhikaji Cama Place,
New Delhi - 110066
Tel: +91-9314772527
Email: delhi@csm.tech

Breaking Thought Barriers

IT Consultancy | Business Solutions | Outsourcing

Additional Locations

CSM Technologies Inc.

15310 Amberly Drive Suite,
60 Tampa FL, 33647,
USA

+1 (509) 408-2507

unitedstates@csm.tech

CSM Tech Corp.

200 Bay St,
North Tower Suite 1200,
Greater Toronto Area,
M5J 2J2, Canada

+1 647-267-3819

canada@csm.tech

CSM Tech Limited

3rd Floor, Office Suite No.2,
Western Heights, Karuna
Road, Nairobi, Kenya

+254-713512751

kenya@csm.tech

India

Bhubaneswar | Delhi NCR | Raipur |
Mumbai | Patna | Ranchi

Overseas

Kenya | Rwanda | Ethiopia | Dubai | USA | Canada

csm.tech/linkedIn
csm.tech/facebook
csm.tech/twitter
csm.tech/Instagram
csm.tech/youtube