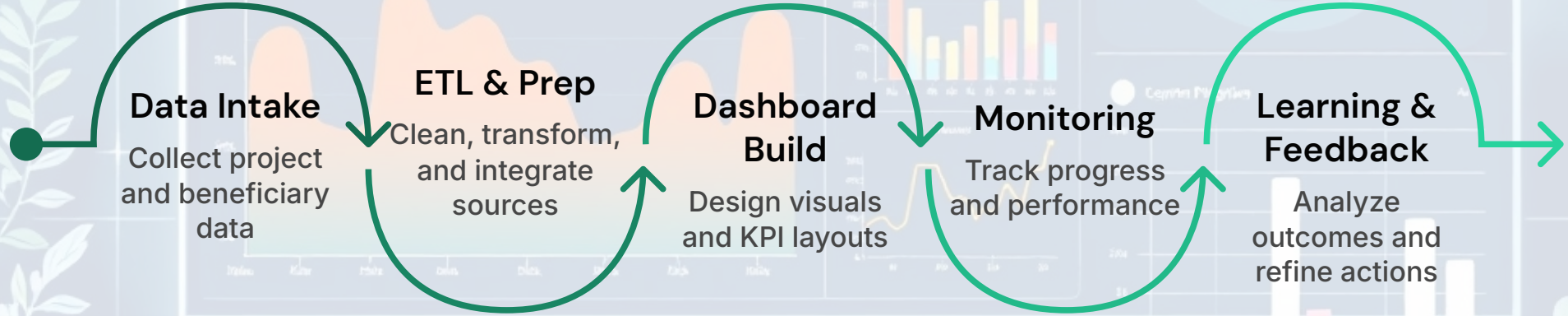
PM VISHWAKARMA POWER BI DASHBOARD

Monitoring, Evaluation & Learning (MEL) Dashboard for PM Vishwakarma Scheme



Project Overview

This project presents an end-to-end **Monitoring, Evaluation, and Learning (MEL) dashboard** developed in **Power BI** for the **PM Vishwakarma Scheme**, a flagship Government of India initiative focused on skilling and supporting traditional artisans.

The dashboard transforms raw MIS data into **decision-ready insights**, enabling stakeholders to monitor implementation progress, identify bottlenecks, and compare performance dynamically across **States, Districts, Trades, and Zones**.

The project is designed from a **governance and policy lens**, not just a reporting perspective.

Objectives of the Project

The key objectives of this project are:

Track Skill Development Pipeline

To track the **entire skill development pipeline** from verification to certification

Evaluate Conversion Efficiency

To evaluate **conversion efficiency and dropouts** at each stage

Enable Dynamic Comparison

To enable **dynamic comparison** across geography and trades

Support Decision-Making

To support **evidence-based decision-making** for government and PMU stakeholders

Demonstrate MEL Framework

To demonstrate a MEL framework implementation using Power BI

Scope of Analysis

The dashboard covers the following stages of the PM Vishwakarma skilling pipeline:

01

Stage 3 Verified Candidates

02

Pre-Skilling Enrolment

03

Pre-Skilling Assessment

04

Basic Skilling Enrolment

05

Basic Skilling Training

06

Basic Skilling Assessment

07

Basic Skilling Certification

08

Candidates Available for Livelihood Opportunities

Analysis is conducted across:

State **District** **Trade** **Zone**

Data Source & Modeling Approach

Data Source

Data Type: Administrative MIS data

Granularity: State–District–Trade level

Nature: Aggregated operational data

Tool Used: Power BI Desktop

The data reflects implementation status and outcomes under PM Vishwakarma training components.

Data Modeling & Design Approach

Table Structure

- A single fact table containing all program metrics
- One disconnected dimension table (KPI_Selector) for dynamic KPI switching

No complex relationships were used to ensure **model transparency and auditability**.

Naming & Measure Discipline

- Raw numeric columns were **never used directly** in visuals
- All metrics were converted into **explicit DAX measures**
- Measures were logically separated into:
  - Base Measures (BM_)
  - Derived Measures (DM_)
  - Dynamic Measures (KPI Selector driven)

This approach ensures governance-grade reporting and reproducibility.

Key Analytical Features

Dynamic KPI Selector (Core Innovation)

A **disconnected slicer** allows users to switch between different stages of the skilling pipeline using button-style controls.

Based on the selected stage, all visuals dynamically update to show:

Corresponding values	Reordered rankings	Comparative performance

This enables **multi-stage analysis without duplicating visuals**.

Dynamic Ranking & Comparison

States, Districts, and Trades are dynamically:

- Ranked
- Sorted in descending order
- Compared across different pipeline stages

This allows stakeholders to answer questions such as:

- Which states perform best in certification?
- Which trades lag at training stage?
- How district performance changes across stages?

Conversion & Dropout Analysis

Derived measures quantify:

- Verification-to-enrolment conversion
- Training delivery efficiency
- Assessment coverage
- Certification yield
- System-level leakage

This supports **MEL-style diagnostics**, not just reporting.

Dashboard Structure

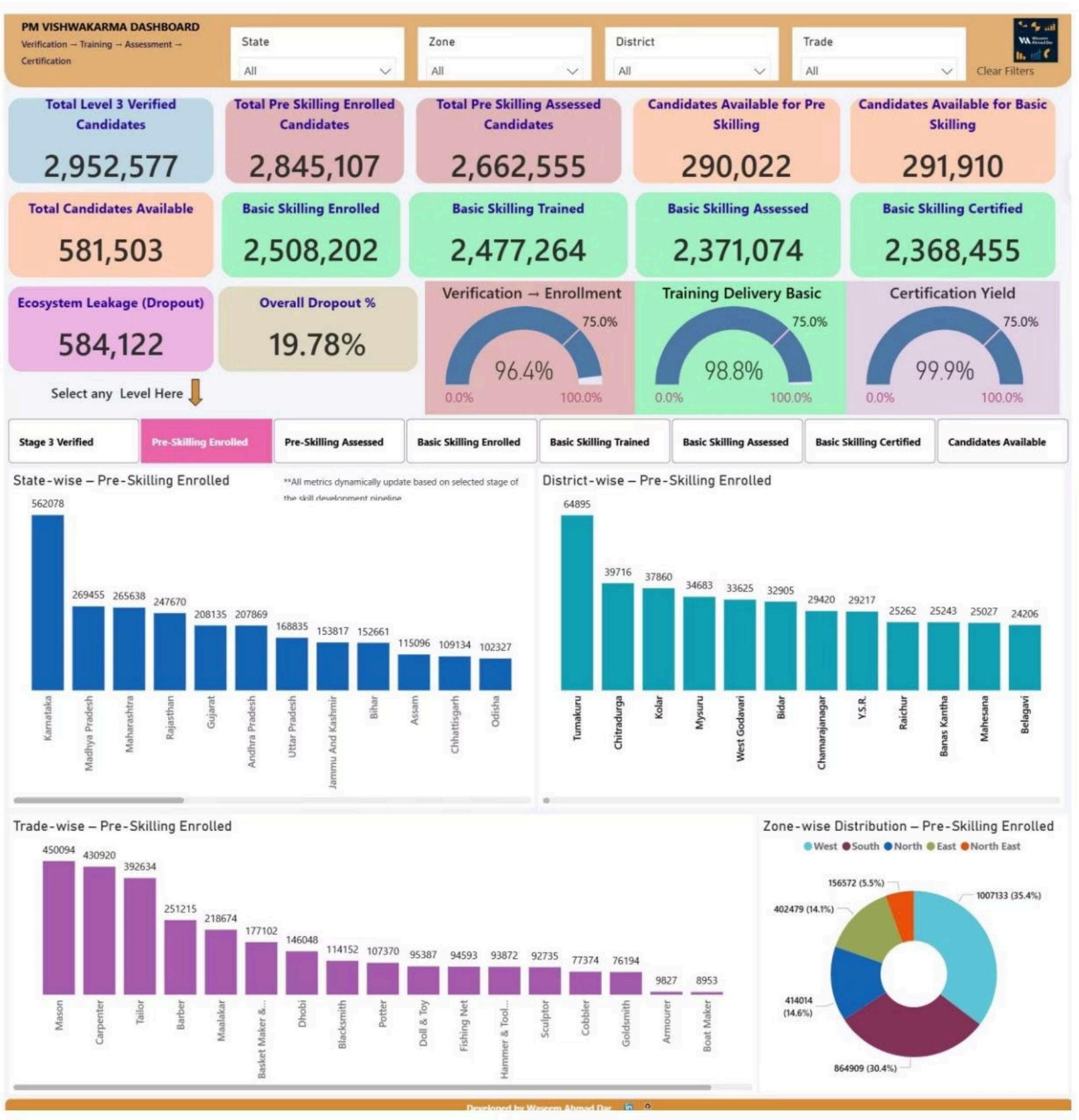
Page 1: National Overview & Dynamic Comparison

1. Stage-wise KPI selector buttons
2. Headline KPIs (scale and outcomes)
3. State-wise progress (dynamic ranking)
4. District-wise progress
5. Trade-wise progress
6. Zone-wise distribution

Design Principles:

- Minimal clutter
- Clear visual hierarchy
- Executive readability
- Policy-review ready layout

Key Insights from the Dashboard



Zero Training in Tamil Nadu and West Bengal

The dashboard highlights **zero training activity** in:

- Tamil Nadu
- West Bengal

This is not a data issue but a **policy and implementation decision**.

Context:

- Tamil Nadu has not implemented PM Vishwakarma in its current form due to concerns raised by the State Government regarding **potential caste-based exclusion**.
- The State had proposed an alternative, more inclusive artisan support framework but that was rejected by central government.
- West Bengal has also not implemented the scheme, though detailed reasons are not formally documented.

> This insight demonstrates how **data must be interpreted within policy context**, a core principle of MEL.

Uneven Conversion Across States and Trades

- High verification does not always translate into high certification
- Certain trades show strong enrolment but weak certification yield
- Dropouts are more pronounced at transition stages between training and assessment

These patterns point toward:

Counselling gaps

Training capacity issues

Assessment scheduling and coordination challenges

Value for Government & PMU Stakeholders

This dashboard supports:

Program Monitoring

Program monitoring at national and sub-national levels

Bottleneck Identification

Identification of implementation bottlenecks

Prioritization

Prioritization of states, districts, and trades for intervention

Evidence-Based Review

Evidence-based review meetings and policy discussions

Skills & Competencies Demonstrated

This project demonstrates expertise in:

- Monitoring, Evaluation, and Learning (MEL)
- Government program analytics
- Power BI data modeling and DAX
- Dynamic dashboard architecture
- Policy-oriented data interpretation
- Stakeholder-focused visualization design

Limitations & Future Enhancements

Current Limitations

No Time-Series Analysis

No time-series analysis due to data structure

No Beneficiary-Level Tracking

No beneficiary-level tracking

No Outcome Data

No placement or income outcome data

Future Enhancements

Time-Based Cohorts

Integration of time-based cohorts

Employment Outcomes

Linking certification to employment outcomes

Intervention Flags

Adding intervention flags and RAG indicators

Automated Refresh

Automating data refresh from MIS systems

Author & Attribution

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