



# Journey to High-Efficiency Motors in Pakistan

PPEMMA's journey through the  
**Industrial Accelerator Program (IAP)**

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# Journey at a Glance

**2023**

## **IAP-1**

- Fragmented capabilities
- Limited and flawed testing infrastructure
- Resistance to MEPS

**2024**

## **IAP-1 Gains**

- Expert engagements
- Factory-level diagnostics
- Efforts in labs improvements
- First breakthroughs

**2025**

## **IAP-2**

- Lab upgrades
- Collaboration among members
- Alignment with standards

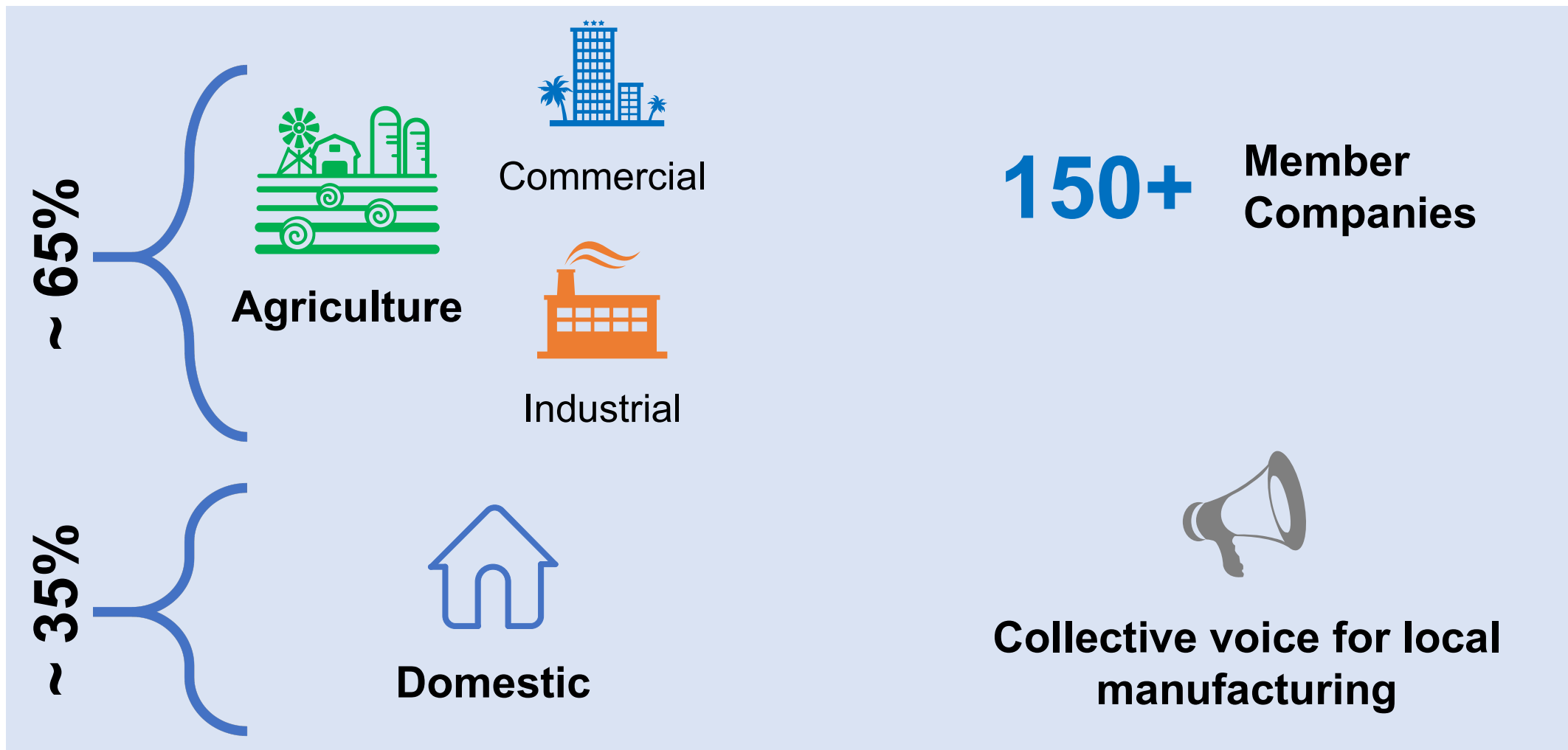
**2026**

## **Way Ahead**

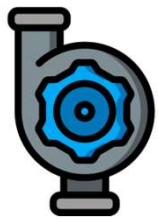
- Compliance readiness
- Confidence to scale
- Wary of demand

# PPEMMA: Introduction

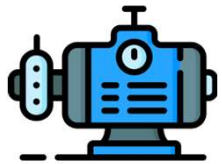
Industry association representing pumps & motor manufacturers across Pakistan



# Existing Manufacturing Capabilities



**Pumps:** Deep-well injector pumps, mono-block pumps, centrifugal pumps, submersible pumps, reciprocating positive displacement pumps, and jet pumps.



**Electric Motors:** Single and three-phase electric induction motors, DC motors, and universal AC to DC motors.



**Advanced Components:** Local companies have started producing high-efficiency M470 grade stator and rotor cores, a significant step towards enabling the manufacture of more energy-efficient motors (IE2 threshold) in the country.

# Structural Challenges Before IAP

- Conventional motor designs with limited to no access to advanced motor designs
- Inadequate testing and calibration facilities
  - Local labs were producing inaccurate results initially.
- Fragmented investments by individual manufacturers
- Uncertainty around upcoming efficiency standards by NEECA

# PPEMMA's Motivation to Join IAP

- **MEPS and labeling** by National Energy Efficiency & Conservation Authority sent a clear market signal
- Need for **structured, hands-on technical support** related to design challenges and testing issues
- Risk of losing competitiveness without action



# IAP Phase 1: Engagement Structure

- International experts visiting factory floors
- Hours spent on:
  - Design review
  - Process diagnostics
  - Testing gaps
- **Hands-on support**, not desk studies
- **Continuous feedback** between experts and manufacturers



# IAP Phase 1: Key Breakthroughs

IAP-1 directly supported 3 manufacturers.



**GOLDEN  
DYNAMICS  
(PVT) LTD.**

Resulted in successful development of an **IE1 motor** now in commercial production.



# IAP Phase 1: Key Breakthroughs

Shared learnings with a **broader group**, initiating **shared investments** highlighting behavioral changes.



**21 manufacturers** co-invested in high-precision progressive stamping mold.

# IAP Phase 2: Consolidation & Compliance

- Expanded focus on widely used single-phase motors
- Improved production precision and quality control tools
- Strengthening of independent testing capabilities – improved repeatability and reproducibility of labs
- Growing confidence in meeting MEPS requirements

# Way Forward

- Scaling efficient motor production across members
- Progressing toward **IE2** and higher efficiency classes
- Continued strengthening of local testing laboratories
- Sustained collaboration with regulators and technical partners

# Challenges in Sustaining the Wins

- Manufacturing readiness alone is not sufficient
- Market adoption depends on **awareness, enforcement, and incentives** which needs to work on
- Demand-side interventions are essential to sustain industry investments

## **Policy Support from Govt Institutes**

- **Securing 'SAVE UP' logo from mis-use**
- **Export facilitation through trade missions** and commercial attachés(Africa & Middle East markets)
- **Targeted duty relaxation** for high-quality raw materials (e.g. electrical steel)
- Market **safeguards against second-hand and scrapped** material imports

# Acknowledgements & Thanks

With sincere thanks to

**SAMA** ^ **Verte**

 **clasp**

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 **Multi Alloy**

 Pakistan Pumps &  
**ppemma**  
Electric Motors Manufacturers Association

# Thank you!