

Utility Monitoring and Water Conservation in Dairy Units



Need for Utility Monitoring



Sustainability Targets

Global market and governments have set sustainability targets



Water Scarcity Constraints

Difficulty in expansion of operations due to the increasing scarcity in water



Energy-intensive Operations

Operations are energy intensive requiring cooling and heating at multiple stages



Regulatory Compliance

Ensure optimal use of water resources under the prescribed regulations



Refrigeration Energy Footprint

Refrigeration load that ranges between 30 to 40% significantly contributing to the overall energy expenses



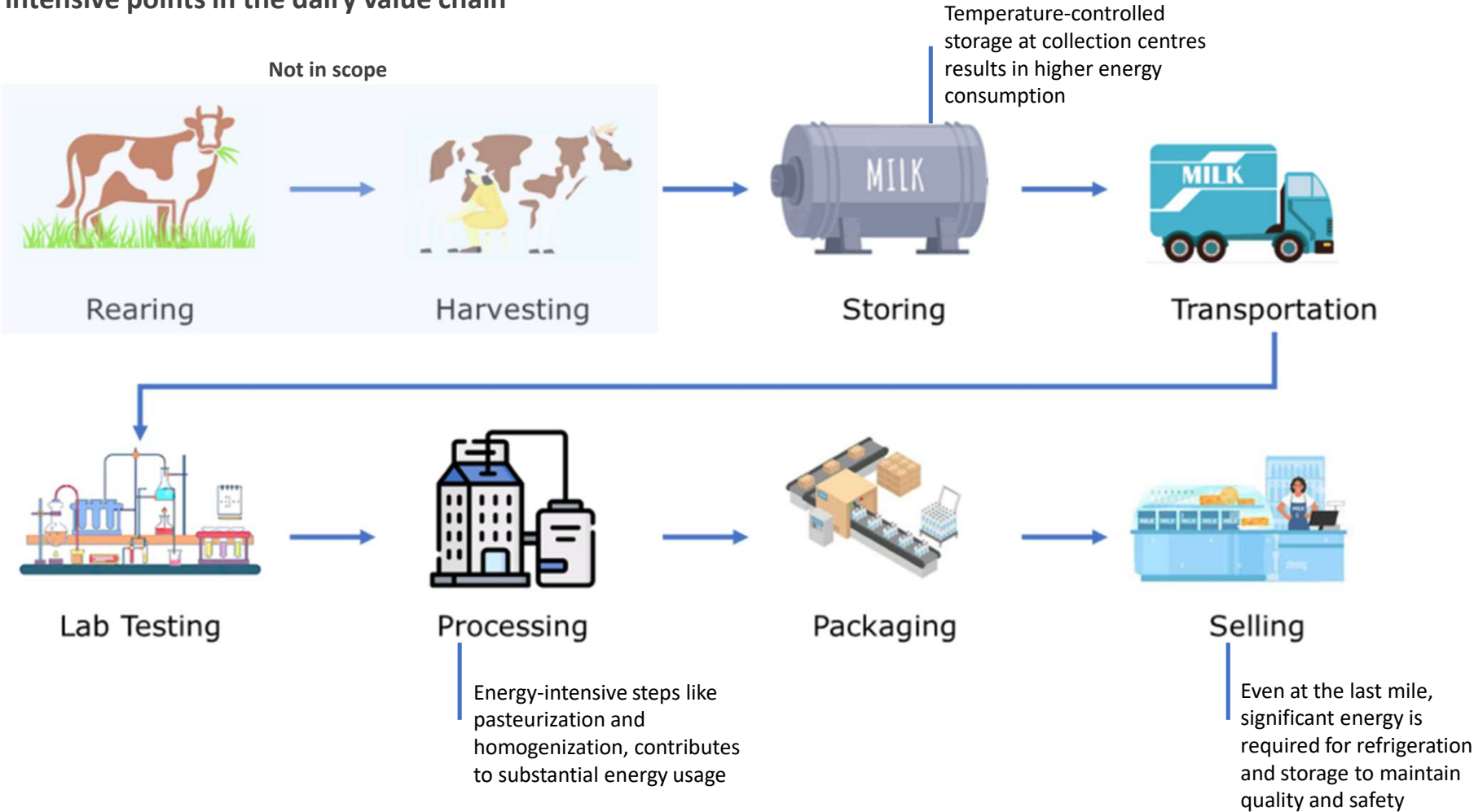
Wastewater Management

Indiscriminate use of water leading to excessive wastewater generation thereby increasing the costs

Utility Consumption in Dairy Facility



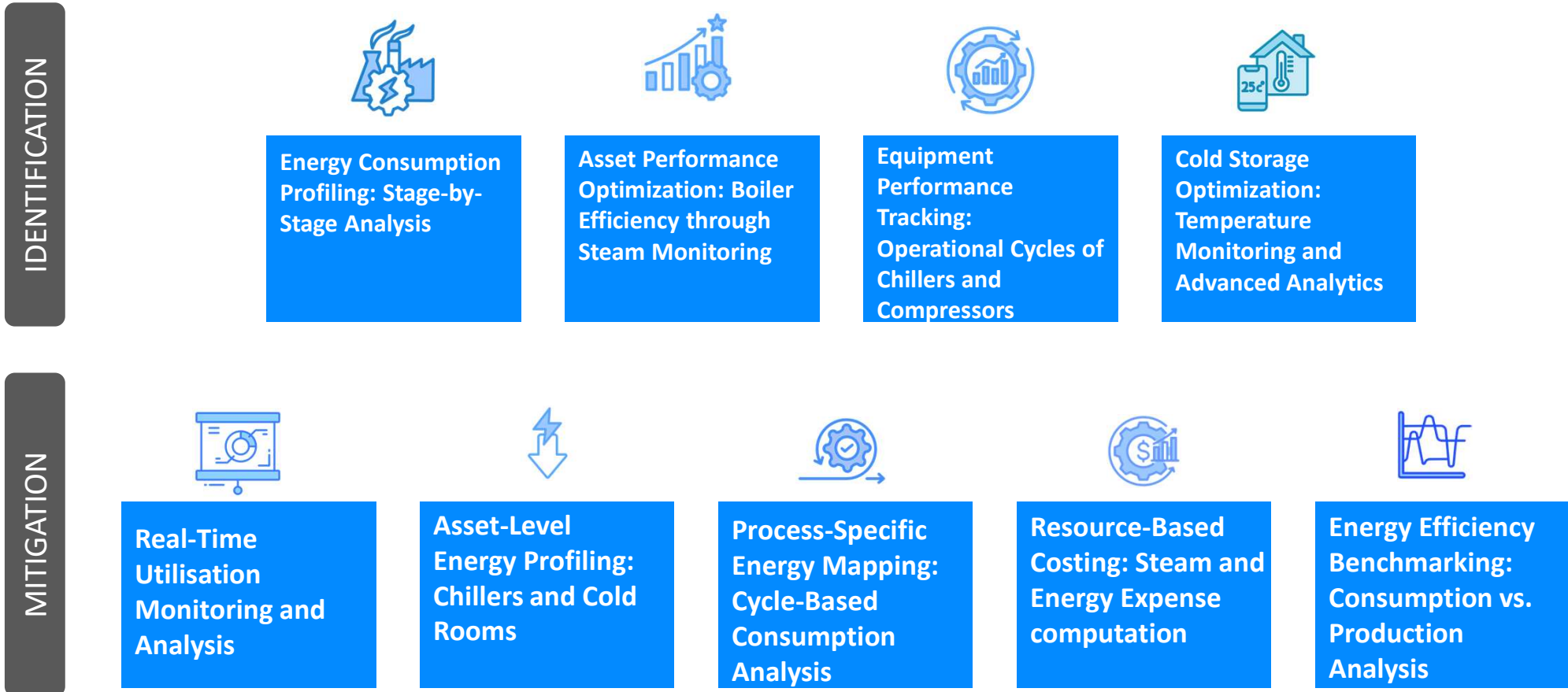
Key energy intensive points in the dairy value chain



Energy Use – Mapping & Mitigation



Energy smart dairy: Equipment and process efficiency



Water Intensity Attribution & Reduction



Water Usage

Direct use of water for milk processing

- ✓ **Benchmarking Milk Production:** Establishing Average Yield Values
- ✓ **Analysing Water Footprint:** Mapping Usage Patterns Across Milk Production Stages"

Indirect use of water for Boilers, BIP, etc.,

- ✓ **Water Discharge Assessment:** Direct and Indirect Sources
- ✓ **Water Reuse Strategies:** Exploring Methods for Efficient Water Management

Track Water Utilization: Area-Wise Consumption and Balance

Water Conservation Investments: Total Cost incurred to promote judicious water use

Water Footprint Analysis: Specific Water Consumption (KL/KG) by Product

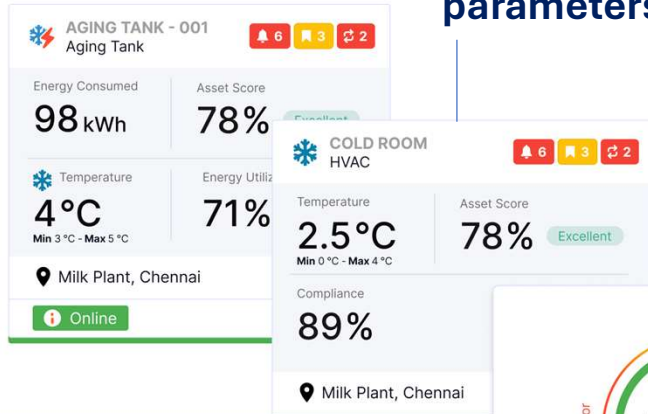
CONNECT ■ COLLECT ■ CREATE

18 December 2024

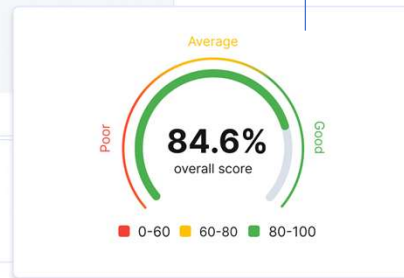
Dashboard Snapshots



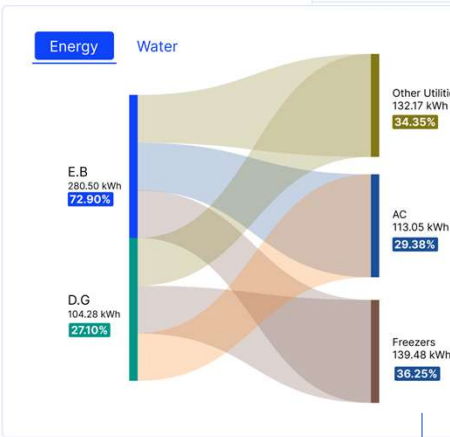
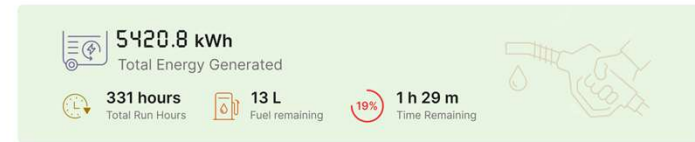
Asset-wise parameters



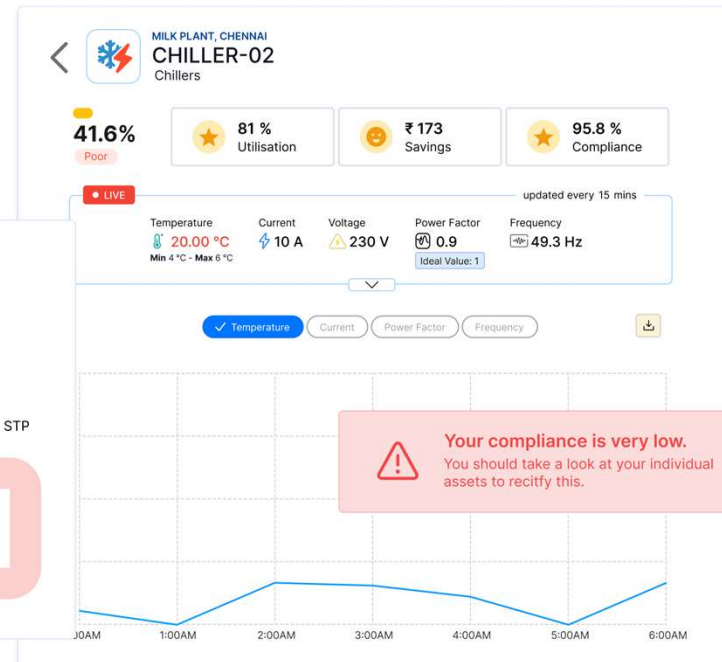
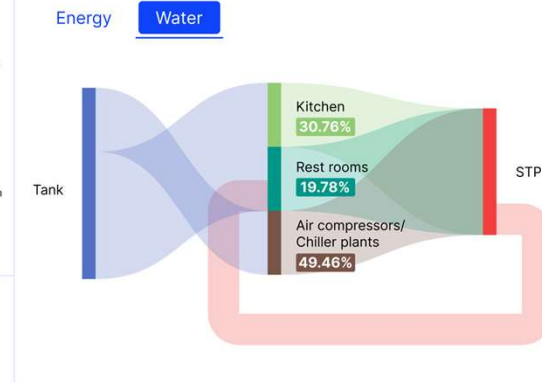
Overall Facility Monitoring



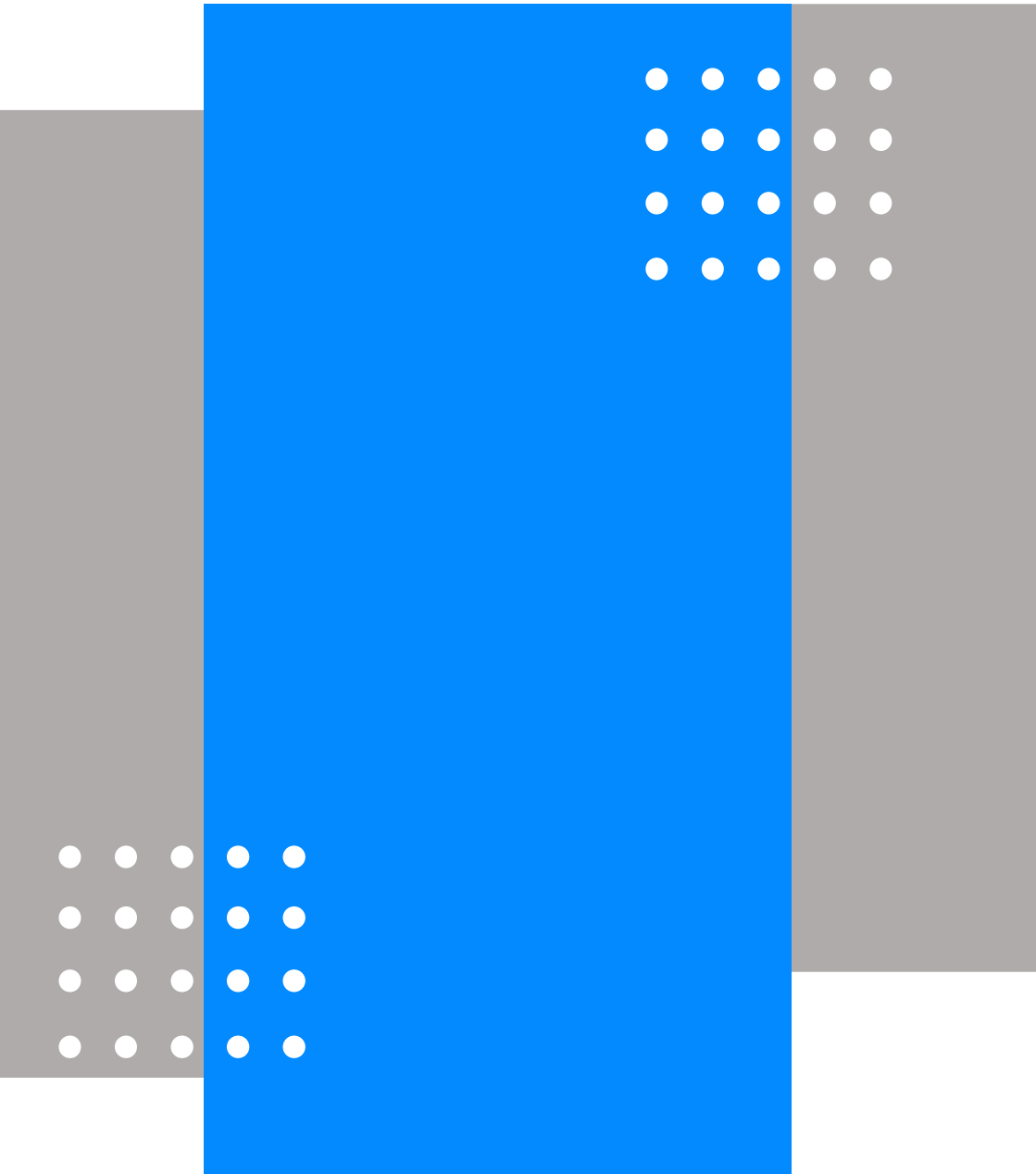
Live Data from DG and Chiller to identify the best operating point



Energy and Water Distribution



Alerts & Notifications



Thank You

