

training - Bug #2564

Machine Performance Metrics with Downtime & Utilization Calculation

05/04/2026 02:19 AM - Prashant Jain

Status:	New	Start date:	05/04/2026
Priority:	Normal	Due date:	
Assignee:	Shreya Agarwal	% Done:	0%
Category:		Estimated time:	0.00 hour
Target version:		Spent time:	0.00 hour
Description			
Description: Implement machine performance metrics to evaluate utilization and availability by incorporating charging hours, downtime, and total hours. This will provide accurate insights into machine efficiency and operational health.			
Requirements:			
Data Calculation Logic Total Hours (e.g., 24 hrs/day) Downtime Hours (fault, offline, maintenance) Available Hours = Total Hours – Downtime Charging Hours (from session data) KPIs to be Calculated Availability () = (Available Hours / Total Hours) × 100 Utilization () = (Charging Hours / Available Hours) × 100 Efficiency (%) = (Charging Hours / Total Hours) × 100 Data Sources Charging session logs Machine status / fault logs Uptime/downtime tracking Backend Changes Create aggregation logic for daily machine summary Store results in a reporting table (e.g., machine_daily_summary) Optimize queries for performance API Development New endpoint to fetch machine performance metrics Support filters: Date range Machine ID Location Dashboard Integration Display KPIs: Availability % Utilization % Efficiency % Provide daily/weekly trends Edge Case Handling Avoid division by zero Handle missing/partial data Consider overlapping downtime sessions			
Acceptance Criteria:			
KPIs are calculated correctly using downtime-inclusive logic Data is available daily per machine APIs return accurate and optimized results Dashboard reflects correct values and trends System handles edge cases without failure			
Notes:			
Prefer using actual uptime instead of fixed 24 hrs where applicable Ensure downtime classification is accurate (planned vs unplanned)			

