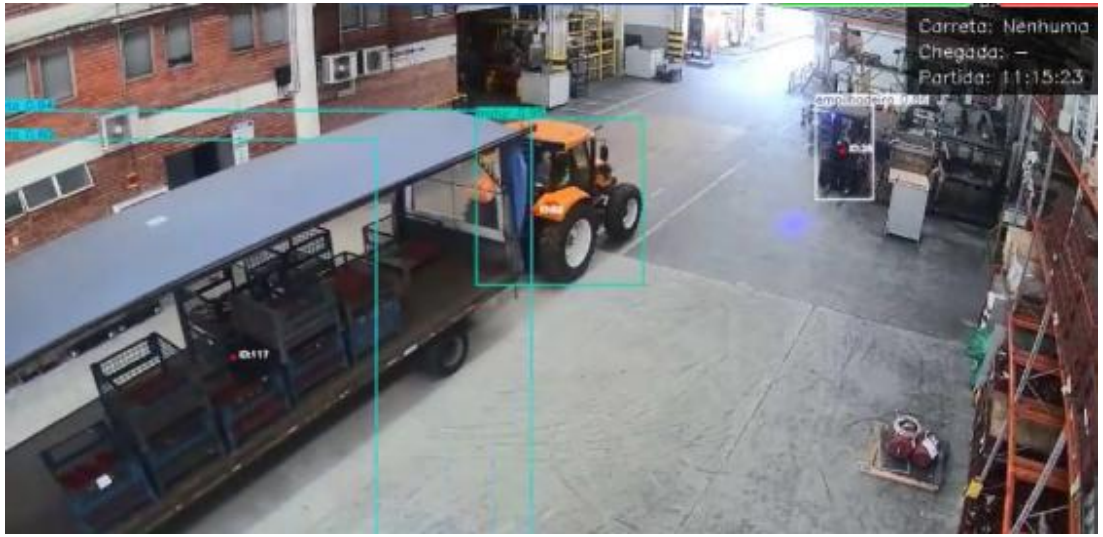
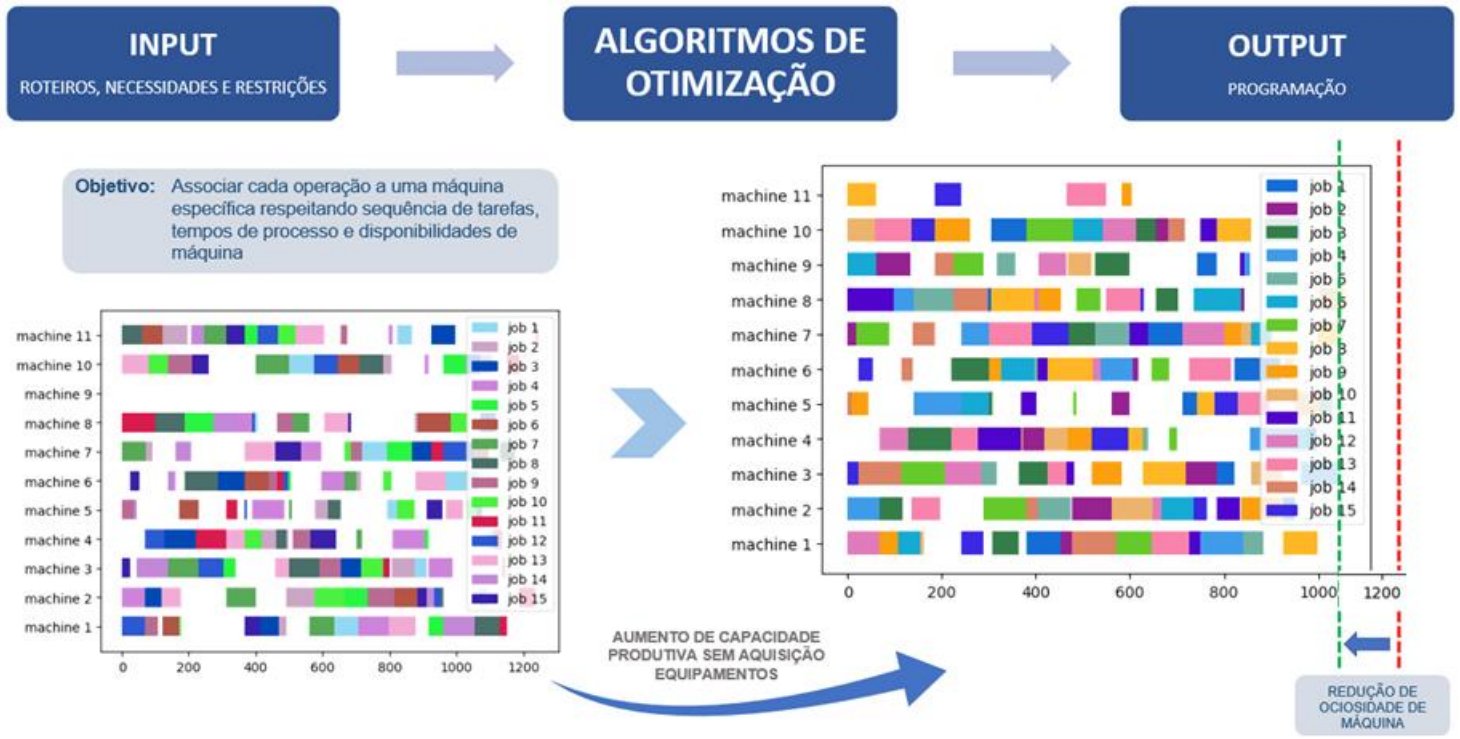
1. AI for logistics optimization and smart routing – Environmental (Energy Consumption/Emissions)
Use of computer vision and AI algorithms for logistics flow analysis, dynamic routing of internal and external vehicles, and reduction of unnecessary routes. This optimization reduces energy consumption and CO_2 emissions associated with internal and external transportation. Impact metric: 10% reduction in fuel consumption and estimated savings of 210 tCO_2e/year.



2. AI for Equipment Scheduling Optimization – Governance / Environmental (Operational Efficiency / Energy Consumption)
Use of Operations Research models combined with AI and IoT (WEGnology) to generate optimal production sequences, minimizing setups, downtime, and waste. This approach reduces bottlenecks and increases the efficient use of resources, directly impacting energy consumption and production capacity. Impact metric: Reduction in energy consumption per batch and increase in overall equipment productivity.



3. AMR for Smart Intralogistics – Environmental / Social / Governance

Deployment of autonomous mobile robots (AMRs) to move materials and products within the plant, integrated with AI systems for dynamic routing, congestion avoidance, and prioritization of critical deliveries. The solution reduces the use of combustion engine forklifts, improves operator ergonomics, and ensures complete traceability of internal flows. Impact metric: Estimated 22% reduction in energy consumption for internal movements, reduced heavy manual movements, and eliminated emissions.

Acompanhamento em Tempo Real

AMR

Tablet acoplado