LEAN ART

Simulation
Sorting facility

Context

As a strategic decision-maker, you encounter intricate choices daily that influence the operational performance of your facility.
However, one question persists:
How can you evaluate the impact of your decisions objectively prior to their implementation?

Objective

Arm yourself with a strategic instrument to navigate your high-impact industrial decisions.
Thanks to the simulation, you are able to:
Compare various flow patterns (bulk arrivals versus smoothed flows) and ascertain the necessity for customer regulation.
Assessing the impact of extended working hour scenarios (night shifts, Saturdays) on actual capacity and performance.

Objectives (continued)

Assess the prospective profitability of a technical investment (modernization, automation, civil engineering).

- Simulate the effects of a load increase by employing realistic or ambitious performance assumptions.

Testing operational parameters in a controlled environment (truck scheduling, congested areas, limited resources)

Quantify the economic ramifications of an imbalance or a mismanaged bottleneck, and determine the suitable lever for intervention.

Examine risk-free "what-if" scenarios prior to arbitration in a visual, swift, and universally comprehensible manner.

- **A deeper comprehension of the performance levers results in improved management.**
- **This model serves as your proactive dashboard, aligning operational activities with strategic objectives.**

Enhanced decision-making commences with improved comprehension.

Visual

Observe the simulation in action: click on the image.

What the model facilitates: a strategic framework for industrial management

This simulator transcends mere flow representation. It serves as a genuine strategic decision-making instrument, enabling you to objectively evaluate the consequences of your industrial decisions.

What the model accomplishes (continued)

🗺️ 1. Evaluate various transportation strategies by comparing scenarios of arrivals concentrated on specific days and times against a weekly distribution.
Identify if collaborative efforts with customers are essential to enhance site performance.

🧭 2. Define optimized routing logic.
Implement intelligent truck routing based on:
a simulated queue (approximately 10 to 15 minutes)
a consignment to the most effective sorting zone
Objective: maximize value while minimizing the concurrent opening of zones, thereby reducing associated costs.

Enhanced vision for improved decision-making

💰 **3. Safeguard the P&L through strategic material allocation**.
Establish a prioritized sequence for truck distribution:
Priority development areas
Final waste disposal site as a last resort
Direct influence on processing expenses and site profitability

🔍**4. Tailor all essential settings**
Sorting rate by stream type
Machine utilization rates
Number of available positions
Percentage of material recovery
Input volume per stream
Each scenario can be tailored to align with the prevailing conditions and the established performance objectives.

⚙️ **5. Execute the sorting line with accuracy.**
Possibility of:
Correlate the sorting rate with the line speed, noting potential quality loss as speed increases.
Assessing the financial implications of a 1% decline in machine efficiency

- Modify schedules, failure rates, supply frequency, and so forth.

The model serves as a robust instrument for facilitating dialogue between operational personnel and management.

🚚 **6. Automate the oversight of skips and internal resources.**
Each filled skip initiates an emptying operation.
The model facilitates testing:
1, 2 or 3 dump trucks
The quantity of OT produced
The effect on overall fluidity

What the model accomplishes (continued)

🧠 7. Seeking a global optimum An integrated algorithm investigates optimal configurations while considering all constraints, which may occasionally conflict:
performance, expenses, durability, ecosystem, accessible resources...

🕶️ 8. Visualize the options in virtual reality. The model can be utilized with a VR headset to immerse the teams in their specific scenario.
A compelling method to acculturate, engage, and empower internal stakeholders by granting them authority over performance levers.

What if you transitioned from observation to action?

Invest 30 minutes to explore how this simulator can revolutionize your industrial decision-making.
📅 *Schedule a time slot directly with me:*
👉 *https://calendly.com/sandrine-ribeiro-leanart/entretien-decouverte-simulation-performance*

Financial and Operational Key Performance Indicators

This model extends beyond financial data.
It also facilitates the monitoring of production, operational, or environmental performance indicators.
All KPIs are customizable and can be presented within the application or seamlessly integrated with your standard dashboards (e.g., Power BI).
Integration with Power BI offers dynamic, transparent, and accessible reporting across all levels of decision-making.

Contacts

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📍 Based in Lyon – Engaging in missions across France and internationally
✨ Enhancing processes to maximize performance

Valuable resources