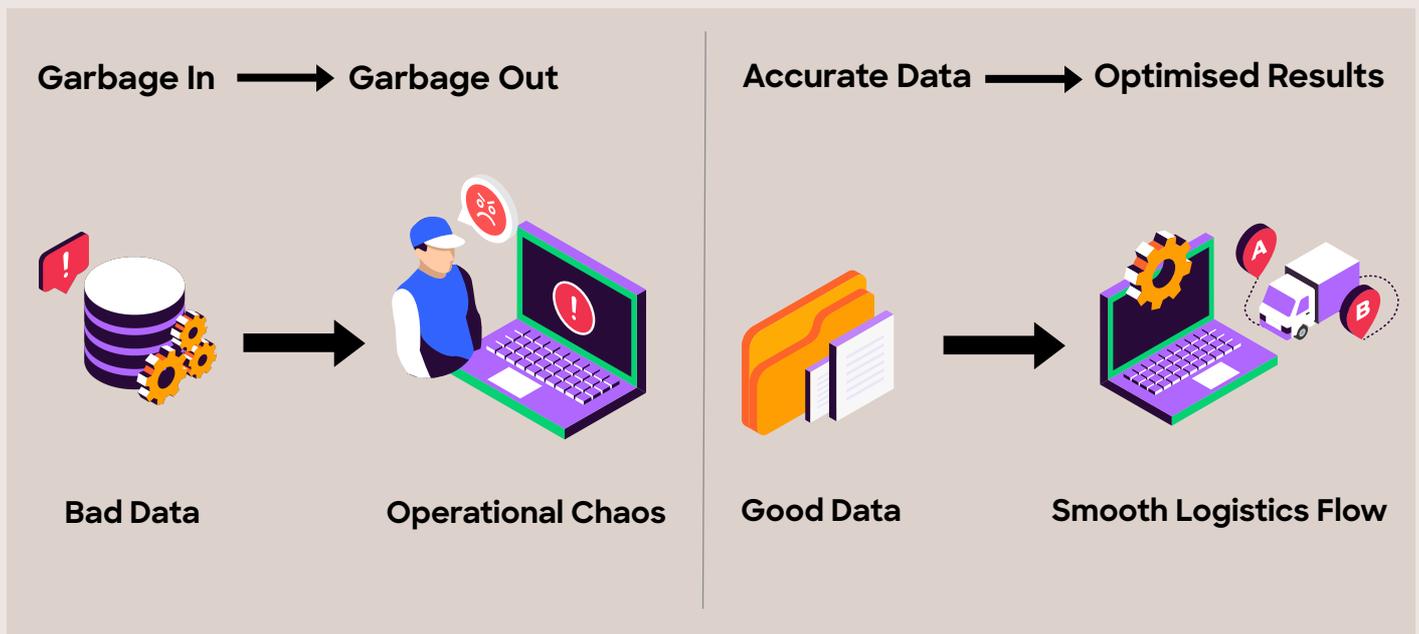Locus

Clean Data, Lean Logistics: Why Profit Starts at the Database

Executive Summary

Millions and billions of pieces of information move through nodes and lanes in logistics; how do you ensure you have the right data, and why maintain cleaner data at all?
The answer lies in what you spend on logistics. We should not only set targets but also define the methodology for achieving those targets.

Garbage In ➡ **Garbage Out**   **Accurate Data** ➡ **Optimised Results**

Bad Data   **Operational Chaos**   **Good Data**   **Smooth Logistics Flow**

"Garbage in, garbage out" is real. You cannot optimise your supply chain with bad data; the optimiser will return an output that is far from on-ground reality.

If customers are getting delayed deliveries, if your driver is waiting at customer locations longer, or if that driver reaches the wrong location, check your data first. While you invest in software that optimises route planning, does the same system help you capture, refine, analyse, and enrich the data itself?

At Locus, a combination of **data refinement and optimisation has improved operational efficiency, reduced logistics spend by 8 to 9%,** improved drivers' operating hours, and boosted delivery accuracy through data refinement with geocoding.

Next, we explore how Locus turns unreliable data into a competitive advantage, showing how small source corrections prevent downstream costs.

Introduction | What We Mean by "Data Sanity"
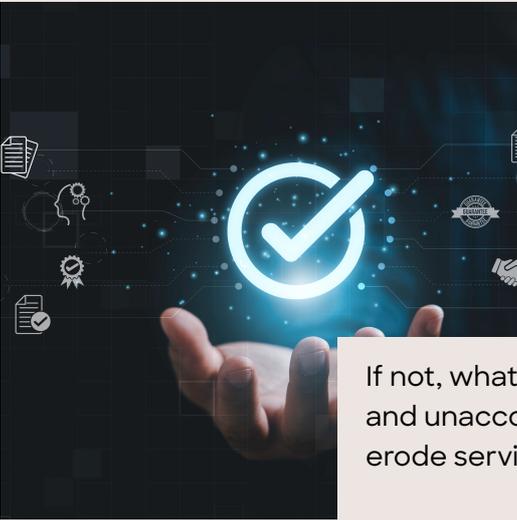
Data sanity in logistics refers to **accurate, consistent data** across the order journey, from the time a customer places an order to delivery and reconciliation. Clean data enables better decision-making, planning, and execution across touchpoints, from promises and ETAs to billing.

It includes customer details, order details, vehicles, vendors and costs, and it must stay consistent across systems.

If not, what happens? It leads to suboptimal deliveries, mismanaged products, and unaccounted costs, all of which drive higher logistics costs and quietly erode service levels customers notice.

For example, several clients in India and the Middle East improved execution by **correcting customer addresses and capturing accurate transaction times, ultimately lifting throughput per driver by 15%.**

So there is a clear need to fix these gaps without slowing operations or adding manual effort. At Locus, data sanity involves capture, comparison with plan, refinement based on execution, verification against benchmarks, and the option for users to review and decide when required.

The Stakes - Visibility and Trust on the Line

A customer-centric company will always try to serve its customers even if it must spend extra. But why spend extra at all? Optimise for spend and for brand value, for trust. Putting visibility and trust at risk is as good as killing the business, because once confidence breaks, churn follows fast.

Inaccurate master data, including customer locations, SKU volumes, wait times, and billing times, creates operational inefficiencies that ripple across fleets, warehouses, and finance.

Poor traffic inputs and low-confidence geocoding lead to missed deliveries and potential penalties for missed windows, along with decreased customer loyalty and a negative brand perception from unreliable ETAs and billing errors.

Wrong locations increase reattempt and return percentages, pushing rework onto drivers and back-office teams. Unreliable integrations with map providers and finance systems increase operational costs through **weak ETA tracking and billing disputes.**

The True Cost of Dirty Data

Dirty data taxes three balance-sheet lines simultaneously.

First comes direct expense: redelivery attempts, unplanned fuel burn, penalties for late arrival, and driver overtime.

Second is the opportunity cost of under-utilised assets. A fleet that could complete ten drops per shift manages only eight because schedules were built on the wrong service times.

Third is brand erosion. Customers remember misses more vividly than on-time arrivals, and churn is expensive to reverse.

Clean data, by contrast, functions as an annuity. Every additional percentage point of accuracy compounds across all future shipments, steadily widening the gap between companies that invest in data hygiene and those that defer it.
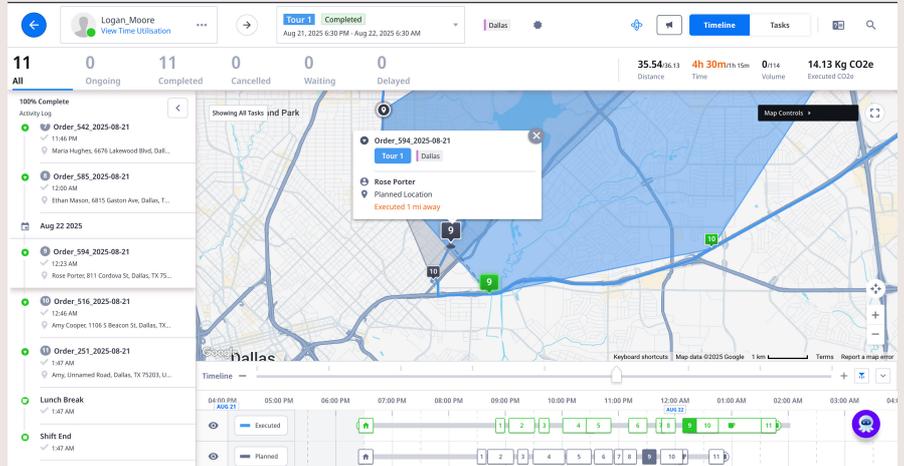
Where the Data Breaks: Seven Root Causes

Human entry:

The most obvious source of inconsistency, visible in small fields and large tables. Even when systems record data, we still allow users to key values—a vehicle's odometer to **capture kilometres run,** the invoice amount copied from a bill, and so on.

Assumptions-as-truth:

Averages on a spreadsheet rarely match street reality. Supermarkets do not share standard unloading or billing times; they vary with waiting time, order volumes, labour and seasonality.

Master-data management gaps:

Often ignored amid optimisation and execution, **yet a major error source.** A single source of truth is essential; keeping masters in multiple systems is detrimental and guarantees drift. **Integration gaps also drive data loss, duplication, and inconsistency, triggering rework.**

Location data quality:

Collecting customer locations and assuming correctness without verification leads to wrong delivery points. Inconsistent geolocation is common; **some apps deliver accuracy only within 500 m to 1 km.** That will not cut it, especially where dense urban **drops demand sub-50-metre precision.** A clean customer master is vital: verify, correct, and lock the change.

Order data defects:

Your OMS must be accurate. It combines customer details, product details, invoice details, and more. Any of these can be wrong, and a **single bad field can cascade into costly mistakes** across planning, execution, billing, and post-delivery reconciliation errors.

Execution telemetry failures:

Driver-app capture can misfire. Wrong or delayed timestamps create confusion and disputes about expectations, process, and money where time drives pay. Poor signal, offline modes, and manual edits magnify the risk.

Optimisation blind spots:

Route optimisation is **constraints-dependent** so plans must be **implementable** on the ground within operational and business limits. It is important to pull the **right traffic data** so travel times and ETAs remain accurate. Customers will not question the map provider; they will question you for the software, because you owned the promise and the clock. Beyond traffic, **consider weather and public events that can disrupt deliveries.**

Locus

Building a Clean-Data Foundation

At Locus, we help enterprises optimize logistics with a robust five-layer data framework: Identify, Capture, Learn, Standardise, and Govern. This approach ensures that data is accurate, actionable, and continuously improving rather than decaying with age.

1. Identity

With more than 1.2 billion deliveries, we understand key data points such as customer and order data, resources, and optimisation factors like route restrictions and traffic. Our experts ensure the right data is prioritised.

2. Capture

Locus collects critical data via the driver app or existing client apps, tracking **serviceability windows, service times, and precise locations**. We use integrated APIs for seamless flow and low-friction adoption in complex landscapes.

3. Learn

Our **machine-learning algorithms continuously learn** from data and refine accuracy. For example, we track delivery-location drift to trigger updates when needed, so the next route inherits a better truth.

4. Standardise

Locus standardises captured data and addresses edge cases and seasonal spikes to ensure consistency and reliability even under peak conditions.

5. Govern

Our customer-success team protects data integrity across the delivery lifecycle, with **regular checks and feedback loops to prevent regression**.

CLEAN DATA, LEAN LOGISTICS

Solution Deep-Dive- The Locus Methodology in Action

Capture and Learn in the Field

The first step is to ground master data in execution reality. Waiting, invoicing, and service times are **no longer estimated; they are captured by driver or client apps** at the moment of transaction.

Location accuracy is assured by an advanced geocoder that consumes either supplied coordinates or raw address strings.

Any mismatch between planned and executed position is quantified as **drift** and stored for corrective action. Route restrictions, as granular as municipal truck bans or seasonal toll exemptions, overlay public maps so the optimiser avoids fines before they arise.

A predictive module, **Foreshadow AI**, scrapes news and civic feeds to anticipate strikes or marathons that could impede delivery. Every significant field, status, geo-ping, exception note, earns a timestamp because, as the philosophy states, **"In God we trust; all others bring data."**

Standardise for Downstream Consumption

Uniform schemas allow **ERP, TMS,** and analytics layers to ingest data without custom patching. The tech stack acts as a single nervous system rather than a set of loosely coupled limbs.

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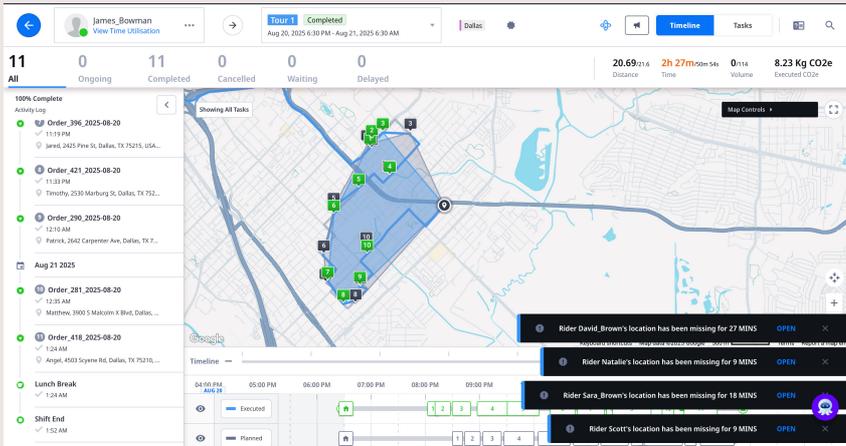
Govern through Control Towers and Insight Packs

An operations control tower surfaces deviations in real time, sending **alerts via email, WhatsApp, or Slack.** At day's end, curated dashboards summarise performance against KPIs. The same data underpins weekly and quarterly business reviews, turning anecdote into evidence.

Business Impact and ROI - Numbers That Matter

Clean data drives results everyone can see on the P&L.

12.5% higher driver productivity from accurate service-time capture.

25% higher on-time delivery rates enabled by precise customer windows.

72% reduction in average geocode drift (2.25 km → 0.62 km) at a Southeast Asian retailer, lowering fuel spend by **15%** and non-compliance fines by **10%.**
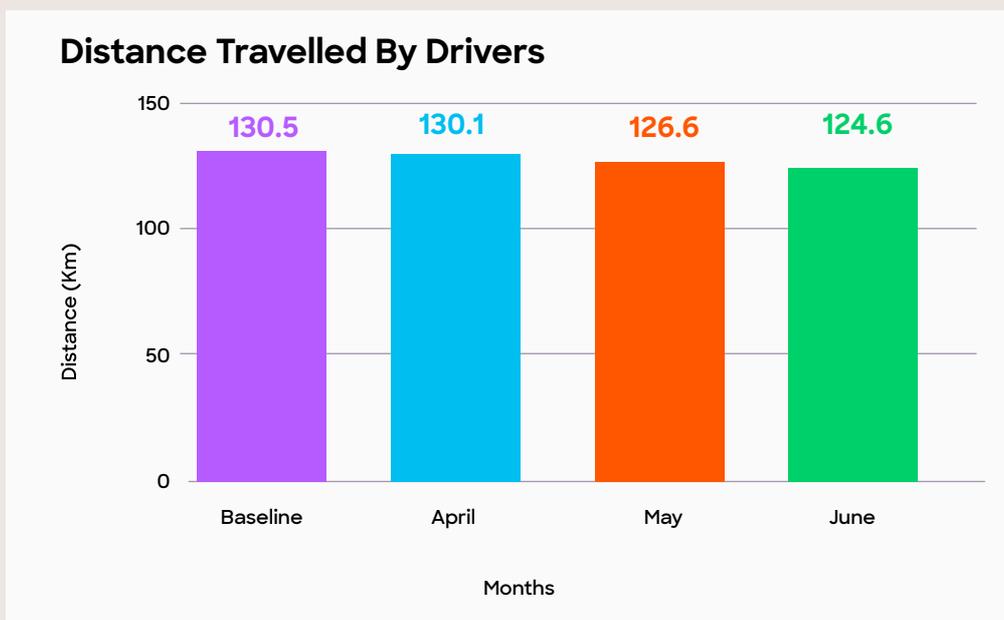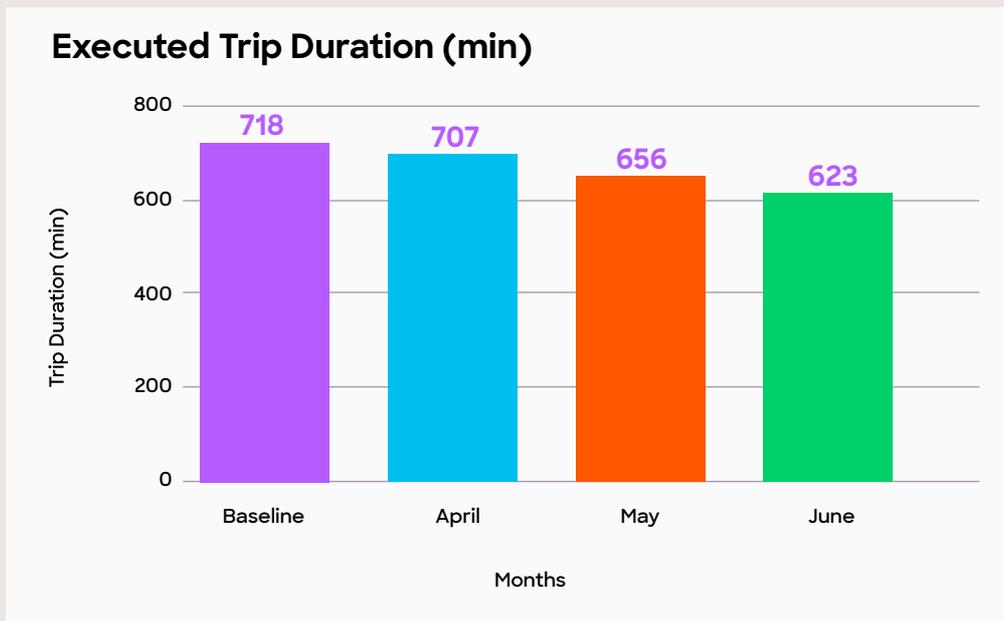
20% shorter delivery times fleet-wide, with **25%** higher utilisation; implementation costs are typically recovered within **6-12 months** (median: **9 months**), and gains persist as underlying data improves.

CLEAN DATA, LEAN LOGISTICS

Locus

Locus has optimized delivery operations by first correcting customer geocodes to ensure accuracy, and then sequencing deliveries in the most efficient order. This approach minimizes the **distance & time travelled by drivers** and enhances overall route efficiency.

For one of our customers, these optimizations have translated into measurable improvements: **reductions in both total trip durations and cumulative distance travelled by drivers**. The following graphs and data points illustrate the improvements achieved over time, highlighting the tangible operational and business impact delivered through Locus' solutions.

Executed Trip Duration (min)

Month	Trip Duration (min)
Baseline	718
April	707
May	656
June	623

Distance Travelled By Drivers

Month	Distance (Km)
Baseline	130.5
April	130.1
May	126.6
June	124.6

CLEAN DATA, LEAN LOGISTICS

Accelerated Implementation Plan

Phase	Timeline	Objective
Data Audit and Assessment	Month 1	Catalogue current datasets, measure the accuracy, and quantify business impact of gaps.
Piolet Implementation	Month 1-2	Deploy Locus in a focused lane or region while running data-quality sprints in parallel.
Scale-Up	Month 3-9	Extend coverage across the network once pilot KPIs are locked, with continuous data-quality monitoring.

Note: A full Locus rollout generally closes inside ten weeks, so data optimisation and deployment advance together rather than in series.

Conclusion and Call to Action
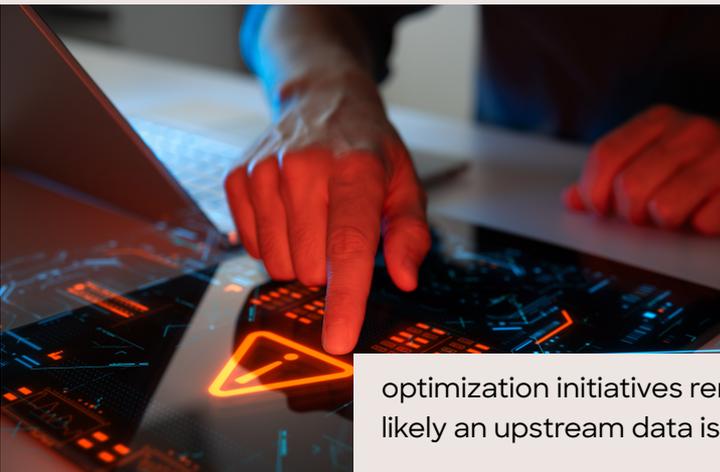
Bad data whispers costs that compound into screams; clean data speaks in clear, verifiable savings. Locus equips **enterprises to silence the noise and amplify the signal.** By capturing ground truth, enforcing standards, and cycling learning back into planning, the platform transforms information into decisive advantage. If your current visibility is inconsistent or your

optimization initiatives remain stuck in endless pilot mode, the root cause is likely an upstream data issue.

Schedule a demo to see how disciplined data sanity can raise service levels, cut spend, and restore confidence across your logistics operation. Your next competitive edge is already in your database, waiting to be cleaned and cashed in.

Locus

Locus is a leading-edge technology company dedicated to solving the most challenging last-mile problems in global logistics.

1.22B+
Total deliveries optimized

14.4m+ Kgs
Reduction in GHG emissions

$303m+
Savings in logistics costs

GROWTH, DELIVERED.

Know more

www.locus.sh