TWO PATHWAYS. ONE SHARED FOUNDATION.

One disruption.
A decision to explain.

TRACE Supply studies hypotheses about origin and consequences to support supervised continuity decisions.



Conceptual maintenance and spare-parts image. It does not represent a customer installation.

01 / Internal operations

Assets, maintenance, plans, work orders and spare parts. Study how a deviation reaches operations or is absorbed by inventory and capacity.

02 / Logistics and supply

Suppliers, routes, lead times, inventory and obligations. Compare propagation, alternatives and continuity within a defined scope.

Status: developed technical foundation and closed internal synthetic studies. Industrial usefulness requires an agreed evaluation. The pathways overlap in inventory and spares and can be studied together in one case. Joint development applies to both.

TECHNICAL FOUNDATION

From origin to consequence.

TRACE ORIGIN

Ranks candidate causes and temporal subgraphs from partial signals available at T0, the decision instant. A hypothesis needs relationships and times representable in the case profile.

TRACE MINA V5.2 / R15

Under an origin hypothesis, estimates affected entities, absorption, first impact, recovery and operational, contractual and economic consequences within the model.

V0.2 control + human authorisation

Compares consequences of plausible causes. If they diverge materially, requests a distinguishing datum available at T0 or retains abstention. No output automatically authorises a real action. The internal score is not a calibrated probability.

Data to scope before a study

Identifiers and dependencies; timestamped events; inventory and consumption; capacity, lead times and restrictions; relevant work orders and obligations. Information known at T0 is separated from the later outcome used for evaluation.

The adapter and data contract are agreed per case. File compatibility does not validate the engine or the industrial process.

PRESERVED EVIDENCE

Figures with denominators.

Study	Population and result
MINA V5.2 / R15	300 synthetic cases, 20 worlds, 30,000 Monte Carlo paths. Operational F1 0.9987; contractual F1 0.9813; economic WAPE 31.21%. Separate supplement: 0/40 false alarms.
ORIGIN V0.1	240 new synthetic blind cases. Top-1: 223/240 (92.92%). Top-3: 228/240 (95%).
Supply E2E V0.1	400 synthetic cases. Complete chain in 399/400. Integration consistency does not establish industrial accuracy.
Stress V0.1 — FAIL	320 new cases. Failed four performance gates. A nearby cause could materially change the consequence. Motivated V0.2 control.
ORIGIN V0.2	400 blind cases / 40 families. Top-2: 400/400. Of 240 material cases: 79 initially resolved + 128 after a T0 datum request = 207; 33 final abstentions. 0/80 false activations on absorptions.

What the V0.2 PASS means

Ambiguity control passed on an internal synthetic blind cohort (21 August 2026). All 64/64 material Top-1 errors were detected; 0/64 were accepted as safe. Consequence agreement on 207 resolved cases uses MINA with the reference cause, not a real operation.

Populations and versions are not pooled. These closures establish neither executed external industrial validation nor demonstrated realised savings.

TRANSFER AND LIMITS

What is prepared. What needs assessment.

External compatibility preparation

Logistics work includes file exchange: provisional mapping, schema and validator, compatibility cases and authorised checks in a testing environment. The checkpoint was not frozen; semantic decisions, the final contract and an external blind cohort remain open. That work was paused and is not an industrial scientific result.

Preserved limitations

Closures preserve aggregates and hashes. A reopenable historical per-case ledger is unavailable and recorded as technical debt. Four historical regressions could not run due to missing dependencies or corpora and are not counted as passes. Closed cohorts are not rerun to reconstruct private truth.

Next industrial step

Agree a historical blind study or shadow evaluation: authorised data, question, T0 information, later reference, baseline, acceptance criteria, costs and stop rules. Preserve the per-case record from the start. Measure usefulness and errors, including absorptions and abstentions.

This is not a public installer or a SaaS connected to ERP/TMS/OT. Installation, security, licensing and production connections require a specific scope.

OUR OWN PUBLIC MODEL

Understand absorption. Recognise missing information.

The website example is a new explanatory simulation calculated in the browser. It does not run ORIGIN or MINA, reopen a blind case or use customer information.

Example rule

Uncovered days = max(0, effective arrival − autonomy). If the alternative is enabled, effective arrival is the minimum of the original arrival and 1 day.

Scenario	Model interpretation
Absorbed	Arrival 2 days; autonomy 3: 0 uncovered days.
Uncovered	Arrival 4; autonomy 1: 3 uncovered days. Alternative in 1 day: 0.
Missing datum	Without confirmed autonomy: request it and report no single impact. Confirming 2 days against arrival 4: 2 uncovered days.

Public kit contents

ES/EN guides, case-scoping sheet, aggregate study summary, illustrative model specification and SHA-256 manifest. Contains no engines, installers, blind cases, private truth or confidential third-party documentation.

The rule omits calendars, partial capacity, variable consumption, replanning and economics. It explains a timing relationship; it is not a decision tool for a real operation.

COMPANIES AND R&D PARTNERS

Start with a question. Agree a deliverable.

1 / Fit and data review

Choose internal operations or logistics. Explain what happens, who decides and which data exists. We review an authorised sample outside the form under agreed exchange conditions.

2 / Scope and budget

Define the data contract, required adaptation, deliverables, criteria, timetable, responsibilities and budget. The first conversation does not imply installation or guaranteed savings.

3 / Development and evaluation

A delivery can include a case map and contract, an adapter or demonstrator, a report with limits and proposed next steps. The result is compared against the agreed procedure and retains human review.

We seek R&D; partners for both pathways

TRACE contributes ORIGIN, MINA and ambiguity control. We seek industrial knowledge, complementary development, authorised data and a validation environment. Contributions, ownership and use of results are agreed before development.

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