Pearl

TEAM PEARL · NOI HACKATHON 2026 · **ACS CHALLENGE B**

We simulate an electric vehicle charging business.

How do we reach the highest service level at the lowest cost?

Autonomous agents with room to act. A human decides only when at least one agent's constraint has to be broken.

Usage data: **Open Data Hub**, South Tyrol. Company, suppliers and costs: simulated.



TEAM

The people behind Pearl



Paolo Pinton



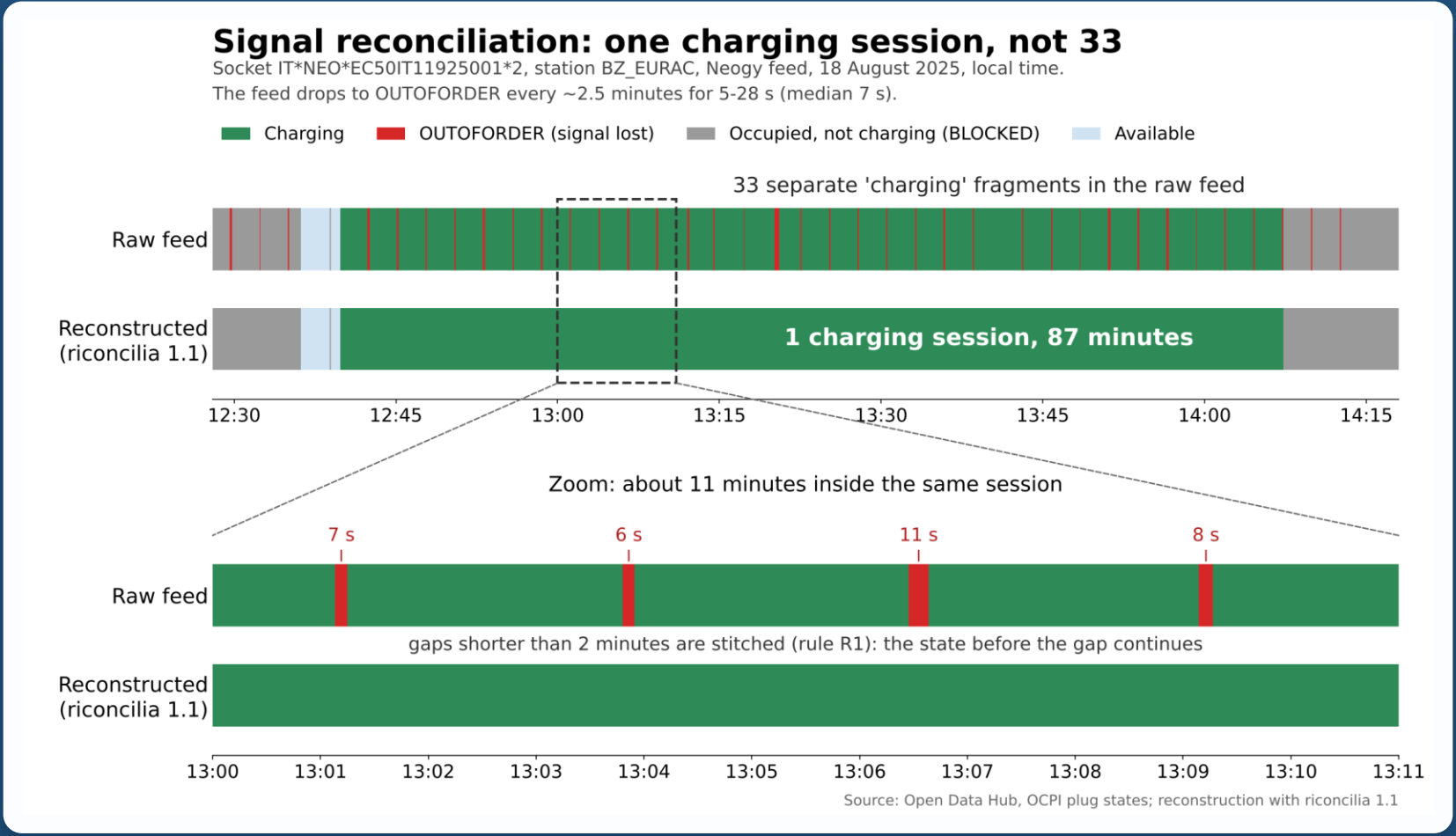
Nico Bonora



Vittorio Covini

1 · RECONCILIATION

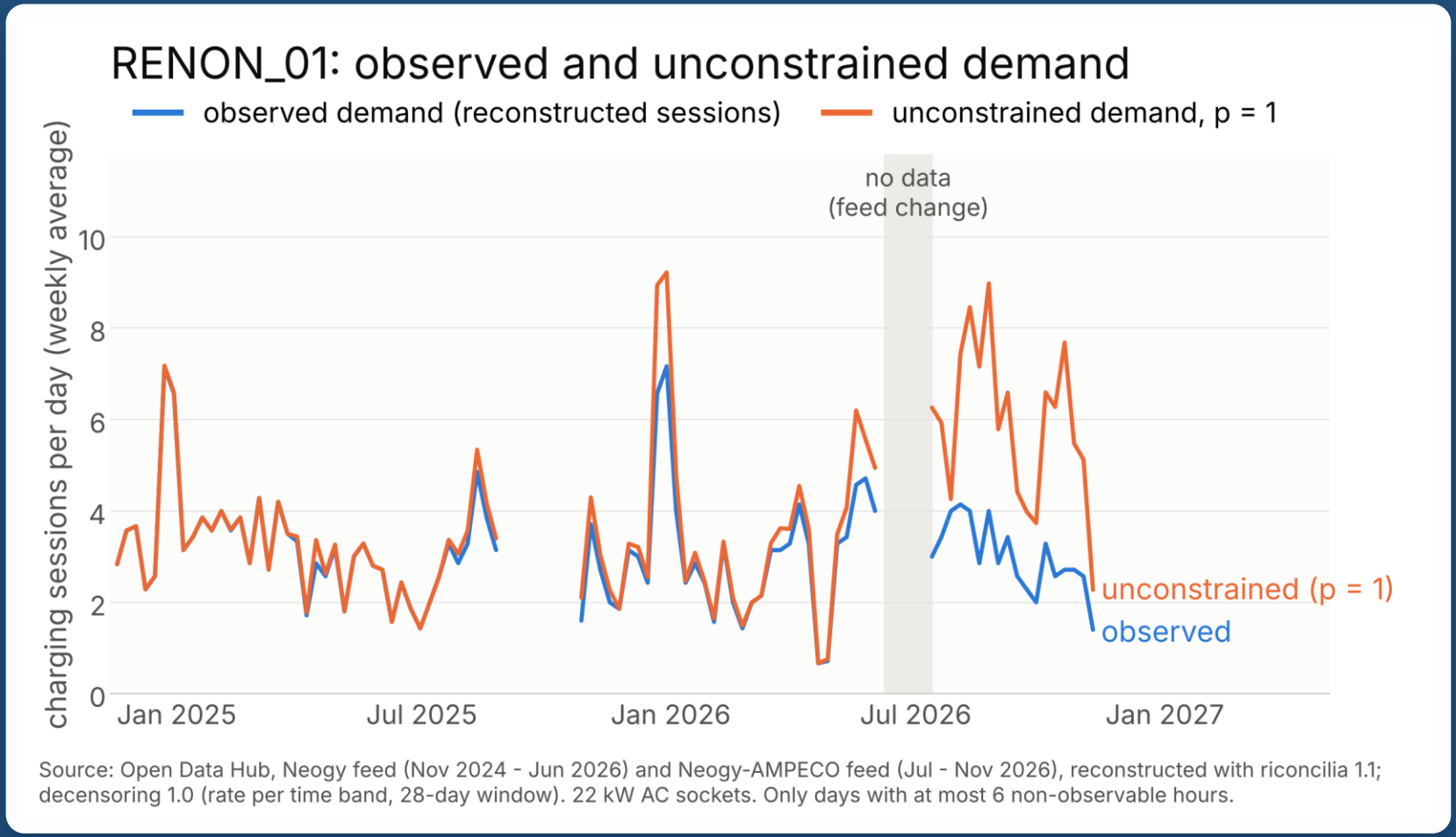
From raw signals to real charging sessions



Short signal losses split one charge into 33 fragments. Rebuilt, it is one 87-minute session.

2 · DE-CENSORING

Cars cannot use occupied stations: actual demand higher



Source: Open Data Hub, Neogy feed (Nov 2024 - Jun 2026) and Neogy-AMPECO feed (Jul - Nov 2026), reconstructed with riconcilia 1.1; decensoring 1.0 (rate per time band, 28-day window). 22 kW AC sockets. Only days with at most 6 non-observable hours.

We reconstruct the demand that raw data cannot show.

4 · AGENTS

Three agents with mandates and some freedom, one critic without opinions

Analyst

NO CONSTRAINTS

Cleans, de-censors, forecasts usage demand

Operations

CONSTRAINT · TIME

Plans service against setbacks

Finance

CONSTRAINT · MONEY

Adjusts budget; beyond the extra limit asks a human.

Critic

NO OPINIONS OF ITS OWN

Sends poorly documented claims back to agents for another round.

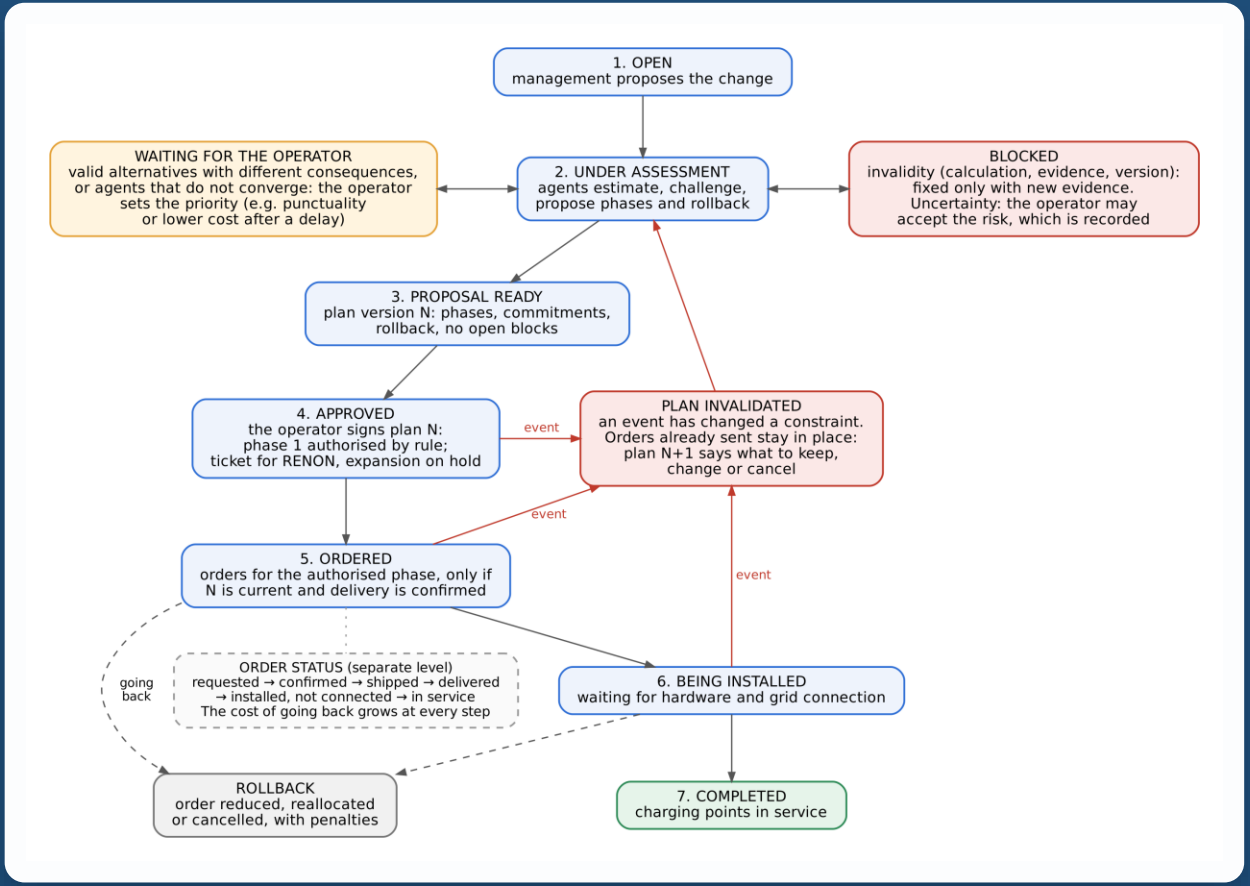
Imposes no solution.

Irreconcilable conflict between agents: a human decides, and the choice is logged.

5 · FLOW

A governed agentic workflow

By design: change management must not depend on an LLM orchestrator's whims.



Why not let an LLM run the flow?

Accountability "The model decided" passes no audit.

Reproducibility. Judgments may vary; permissions may not.

Security. Agents read outside text: reduce vulnerability

The LLMs agents do the judging: they argue trade-offs and raise objections.

Not one LLM more than SAFE and NEEDED.

Agents judge; policies written in code govern the flow. A human decides only when every option breaks a constraint.