

Optimization Engineer Inventory & Supply Chain (f/m/d)

FULL-TIME · WÜRZBURG · HYBRID

Who we are

SOLISTIQ builds an AI inventory planner that brings forecasting, optimization and execution into one product. Built for use across industries, it powers replenishment and production planning for customers in wholesale, retail, manufacturing and food service. At its core is **Q-Foundry**, our own time series foundation model, pre-trained on millions of demand series and billions of data points across industries.

Founded in 2026, SOLISTIQ is a spin-off from the University of Würzburg's Data Driven Decisions group, where Q-Foundry originated as a research project. We are based in Würzburg and are expanding our engineering team to develop the model and product further.

About the role

The decision is the product, not the forecast. What binds it in practice: minimum order quantities and values, pack sizes, delivery calendars, warehouse capacity, shelf life, setup costs, service levels – differing per customer and per supplier, and interacting.

Two heuristics do this today, well enough to run every night – an (s, c, S) can-order policy that already bundles orders across a supplier, and a quantile look-ahead with a shelf-life guard – but they encode the trade-offs as rules rather than weighing them. We intend the decision layer to be as good as the forecast that feeds it, and you would be our first dedicated optimization hire. What we are working on:

- **New decision engines:** solver-based optimization over the constraint and cost model that already sits beneath the heuristics, where the trade-offs are optimized rather than encoded as rules.
- **Distribution to decision:** per-period quantiles do not add across a lead time, and articles sharing a minimum order value do not fail independently – getting expected cost into a form the solver can use is unsettled here.
- **Constraints as models:** customer requirements as reusable, composable modules instead of per-customer special cases.
- **Backtesting:** rolling-horizon simulation against customer history with censored fill rate – a stockout in the record is not the demand a better policy would have faced.
- **Solving at scale:** tens of thousands of articles per customer, in a window that ends before the morning.
- **Release:** getting a new policy live at a customer, and watching what it does there.
- **Decision-focused learning:** we own both halves, so the forecast can be trained against the decision it feeds rather than against a forecast metric.

In practice that means formulations, backtests, and a run that has to finish overnight. The role also sits closer to the customer than most research roles do: you will explain to the people who place the orders why the model proposes what it does, and their objections are usually information.

What we're looking for

- You have built optimization models someone then depended on, not only studied them: LP and MILP solidly, plus depth in at least one of optimization under uncertainty, dynamic programming, constraint programming or (meta)heuristics.
- You have worked with solvers – Gurobi, CPLEX, HiGHS, OR-Tools – or with modelling layers on top of them.

- You write Python that runs unattended in production.
- You can turn a vague problem into a formal model.
- PhD or MSc in mathematics, operations research, computer science, industrial engineering, physics or a related quantitative field, plus around three years building optimization models in research or industry – or equivalent experience.

Nice to have

- You have worked on some of this:
 - inventory theory: (s, S), joint replenishment, newsvendor, multi-echelon
 - stochastic, robust or chance-constrained formulations
 - predict-then-optimize and contextual stochastic optimization
 - other domains: routing, scheduling, network design, energy
- You have published work in optimization.
- You have built something people rely on – widely used open source, or a production system whose decisions someone trusts.

How we work

- A constraint and cost model and a backtesting simulator already in place, with quantile forecasts from the foundation model as the demand input.
- Permanent and full-time with SOLISTIQ GmbH, from our office in central Würzburg; hybrid, with at least two days per week on site.
- Competitive compensation, matched to your experience, plus a share in the company's upside.
- You work directly with the four founders; your work reaches customers in weeks.
- We work in German and English; either is enough.
- Stack: Python, Gurobi, OR-Tools, Polars, PostgreSQL.

Apply

Send us your CV and a link to something you have built: a repository, a project, a paper or your thesis. Write to Magnus Maichle, application@solistiq.com.

If you match most of this and not all of it, write anyway.