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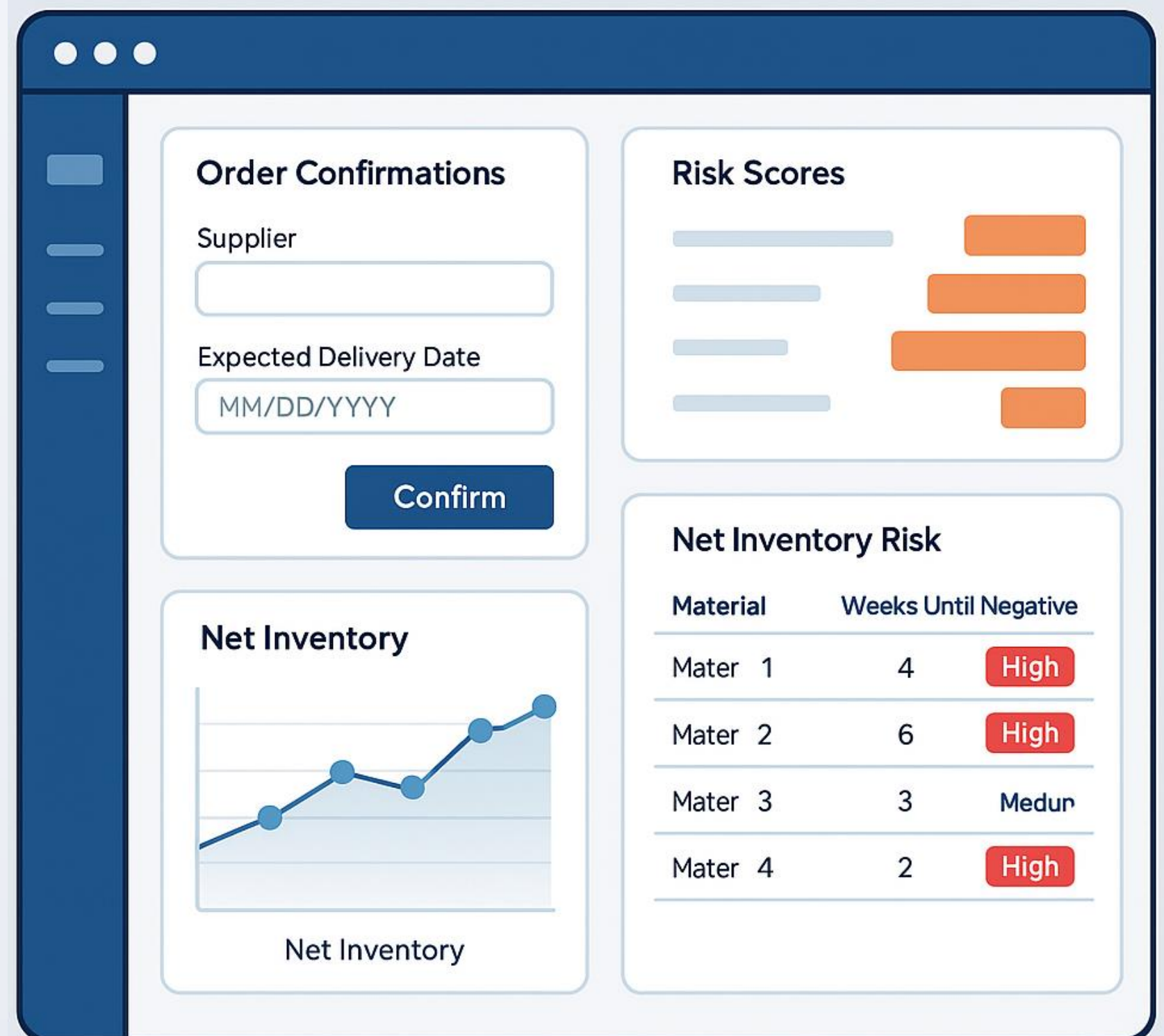
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ABSTRACT



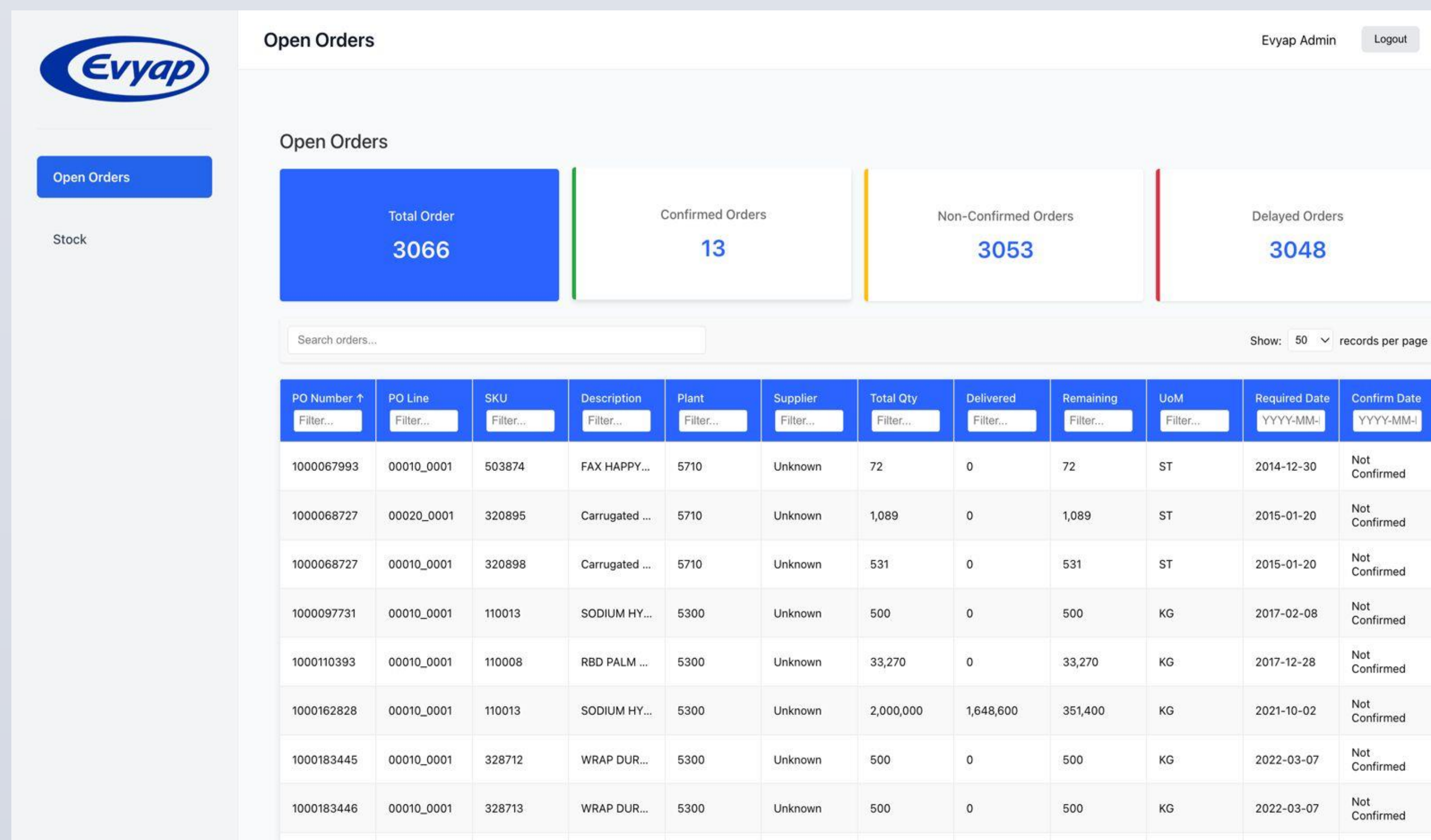
The Web-Based Supplier Tracking System digitizes EVYAP’s manual order-confirmation workflow and automates risk detection for materials. Suppliers enter their promised delivery dates directly into the dashboard, replacing error-prone email chains.

Simultaneously, the system retrieves week-by-week net inventory projections from Kinaxis Maestro and assigns each material a “risk score” based on the number of weeks until the inventory balance turns negative. Daily recalculations and long-term averages highlight critical items, triggering proactive alerts and providing end-to-end visibility for procurement.

OBJECTIVES

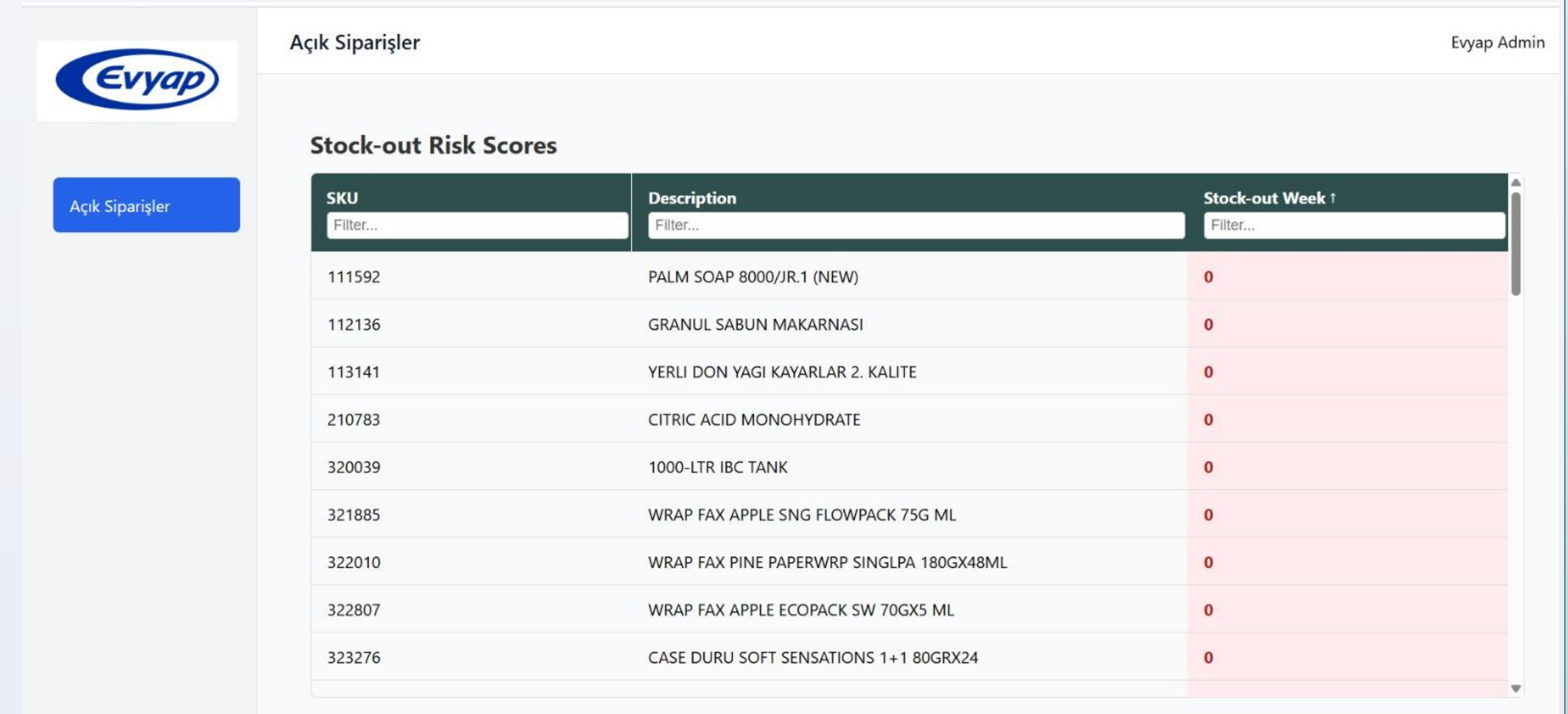
- **Real-Time Visibility:** Provide fresh, week-by-week inventory projections each morning.
- **Digital Order Confirmations:** Fully digitize supplier delivery-date submissions.
- **Proactive Alerts:** Automatically identify and notify procurement of critical items.

Project Details I: Order Confirmations



- ❑ **Supplier Input:** Suppliers log in to our web dashboard and enter their expected delivery dates for each order.
- ❑ **Behind the Scenes**
 - When a supplier submits a date, our Node.js service calls Maestro’s /suppliers/confirmations API and saves the confirmation alongside the original order data.
 - Every confirmation is timestamped and stored so procurement always sees the latest confirmed dates in one place.

Project Details II: Inventory Risk Analysis



- ❑ **Daily Inventory Pull:** Every night, we fetch 12-week net inventory projections from Maestro’s Component Balance API and store the raw JSON in our database.
- ❑ **Risk Scoring:** For each material, we calculate “weeks until inventory goes negative” and log that number once per day.
- ❑ **Dynamic Risk Table:**
 - From the very first daily score onward, we keep a running average for each material.
 - If a material’s average score drops **below** the threshold (e.g., 5 weeks), it **enters** the risk table; if it climbs **above**, it’s **removed**.
 - This dynamic list powers the dashboard’s “High Risk” view, so procurement always sees exactly those items whose long-term average predicts a potential stockout.

CONCLUSIONS

By centralizing order confirmations and automating inventory risk monitoring, the Web-Based Supplier Tracking System delivers clear, measurable benefits:

- **Reduced Manual Overhead:** Automating supplier confirmations cuts the back-and-forth emails by an estimated 35–45%, freeing procurement to focus on exceptions rather than chasing data.
- **Proactive Stock Control:** The continuous “weeks-until-negative” risk score and its dynamic average ensure that any material trending toward a stockout is flagged immediately—allowing purchasing to reorder or adjust safety stock long before a disruption occurs.
- **Enhanced Transparency and Accountability:** With every confirmation and risk metric timestamped in a single database, stakeholders across EVYAP can trace decision histories, audit supplier performance, and validate lead-time assumptions.
- **Scalable, Future-Ready Platform:** Built on modular APIs, containerized services, and real-time dashboards, the solution can be extended—for example, to include cost forecasting or multi-plant coordination—without rearchitecting the core system.

Together, these capabilities transform EVYAP’s supply chain from reactive firefighting to data-driven foresight.

REFERENCES

- Kinaxis. Kinaxis Knowledge. Retrieved, from <https://knowledge.kinaxis.com/s/>
- Gunasekaran, A., & Ngai, E. W. T. (2004). Information systems in supply chain integration and management.