**Note for Future Updates: This document is the primary source of truth for the project's state, designed to be consumed by AI assistants. It must be as technical and detailed as possible. NEVER edit or remove previous entries. All new updates must be appended to the bottom with a new timestamp to maintain a complete, chronological history log.**

**Project 'Market Pulse' - Changelog**

* **Initial document generated: Saturday, July 5, 2025**
  + **Core Project Specification Objective: A web application to provide hotel performance metrics, including a live dashboard and a "vs. The Market" comparison tool.**
  + **Frontend: public/index.html and public/script.js. Vanilla JavaScript.**
  + **Backend: server.js (Node.js/Express). Serves the frontend and provides a JSON API.**
  + **Database: Neon PostgreSQL.**
  + **Deployment: Vercel, connected to the main branch of the GitHub repository.**
  + **Sensitive Data: All secrets (API keys, database URLs) are managed via a local .env file and as Environment Variables in the Vercel project settings.**
* **Entry: Saturday, July 5, 2025 - Morning Session**
  + **Objective: Migrate the application from a local-only setup to a fully operational, cloud-native solution on Vercel.**
  + **Key Files Modified: server.js, vercel.json, daily-refresh.js.**
  + **Backend Changes: server.js: Logic updated to use process.env.DATABASE\_URL for the production database connection. daily-refresh.js: Converted to a Vercel Serverless Function format using import / export and a default handler function.**
  + **Deployment & Configuration: vercel.json: Created to define build outputs and configure a cron job. Cron Job: path: "/api/daily-refresh", schedule: "0 1 \* \* \*" to run daily-refresh.js daily at 1 AM UTC.**
* **Entry: Saturday, July 5, 2025 - Afternoon Session (Data Seeding)**
  + **Objective: Solve the "cold start" problem for the "Us vs. The Market" feature by creating and importing a rich set of mock competitor data.**
  + **Key Files Modified: seed-market-data.js (new file).**
  + **Database Schema Changes: hotels table created to store static hotel information (name, city, coordinates). Foreign key constraint added between daily\_metrics\_snapshots.hotel\_id and hotels.hotel\_id.**
  + **Backend Changes: seed-market-data.js: New Node.js script created to parse daily\_metrics\_snapshots\_5hotels.csv and perform a batch INSERT ... ON CONFLICT operation into the daily\_metrics\_snapshots table.**
  + **Data Artifacts: daily\_metrics\_snapshots\_5hotels.csv: CSV file created with 3,650 rows of mock data for 5 competitor hotels.**
* **Entry: Saturday, July 5, 2025 - 2:40 PM CEST (UI & Backend Aggregation)**
  + **Objective: Transform the raw competitor data into a true "like-for-like" comparison view and improve the UI for direct comparison.**
  + **Key Files Modified: index.html, script.js, server.js.**
  + **Backend Changes (server.js): /api/competitor-metrics: The SQL query in this endpoint was fundamentally changed. It now uses AVG(), SUM(), and GROUP BY stay\_date to perform data aggregation directly in the database. This ensures the API returns a single, averaged "market" row per day.**
  + **Frontend Changes: index.html: Restructured to use a two-column div layout (<div class="comparison-container">) to place "Your Hotel" and "Competitor Market" tables side-by-side. script.js: The renderCompetitorMetricsTable function was simplified. It no longer needs to handle multiple rows per day or a hotel\_id column. Headers were updated to "Market ADR", etc.**
* **Entry: Saturday, July 5, 2025 - 3:15 PM CEST (Granularity Feature)**
  + **Objective: Implement a feature allowing users to view the comparison data with daily, weekly, or monthly granularity.**
  + **Key Files Modified: index.html, script.js, server.js.**
  + **Backend Changes (server.js): /api/metrics-from-db & /api/competitor-metrics: Both endpoints were enhanced to accept a granularity query parameter. A logic block was added to sanitize the input (e.g., 'weekly' -> 'week') and dynamically build the SQL query. For non-daily views, the SQL queries now use DATE\_TRUNC('<granularity>', stay\_date) and GROUP BY DATE\_TRUNC(...) to perform the aggregation at the requested time interval.**
  + **Frontend Changes: index.html: Added a div with class toggle-group containing three buttons: [ Daily ] [ Weekly ] [ Monthly ]. Changed the Number of Days input to an End Date picker (<input type="date" id="master-end-date">). script.js: Added a global variable currentGranularity to hold the state. Added setGranularity(granularity) function to handle button clicks and update the state. loadAllDbData() function updated to read from the new master-end-date input and pass the currentGranularity to the API calls. Table rendering functions updated to change the date column header based on the selected granularity.**
* **Entry: Saturday, July 5, 2025 - 3:35 PM CEST (UX & Cosmetic Refinements)**
  + **Objective: Polish the user interface and improve the overall user experience.**
  + **Key Files Modified: index.html, script.js.**
  + **Frontend Changes: index.html: The CSS <style> block was completely overhauled with a new, more modern design system (CSS variables, refined color palette, improved typography and spacing) for a "dashboard-like" feel. The "Live API Forecast" section was moved above the "Master Controls" box. The container for property information was changed to an empty div with a button: <div id="hotel-info-container"><button onclick="fetchHotelDetails()">...</button>...</div>. script.js: The DOMContentLoaded event listener that automatically called fetchHotelDetails() was removed. The function is now only triggered by the new button's onclick event. A new block was added to the DOMContentLoaded listener to programmatically set the master-start-date to today and master-end-date to one month in the future. The DATASET\_7\_MAP constant was updated to rename the occupancy metric's name property from "Occupancy (Direct)" to "Occupancy".**
* **Entry: Saturday, July 5, 2025 - 8:27 PM CEST (Vercel Deployment Fix)**
  + **Objective: Diagnose and resolve a critical deployment failure on Vercel where the application was non-functional despite working locally.**
  + **Problem Summary: The deployed application on Vercel was serving a 404: NOT\_FOUND error for the root page and all static assets (e.g., script.js, dashboard.html). This resulted in a non-interactive page where JavaScript-driven features, such as the date pickers and data loading buttons, did not work. The root cause was a vercel.json configuration that did not correctly instruct the Vercel build system on how to handle the static frontend files.**
  + **Debugging & Resolution: Initial analysis of the vercel.json file suggested the routing rules were incorrectly sending all traffic to the server.js backend, which does not have access to the static files in a serverless environment. After an initial attempt to fix the routes failed, a detailed review of the Vercel Build Logs revealed the true issue: Vercel was incorrectly compiling frontend files (like script.js) as if they were backend functions, instead of deploying them as static content. The key log line was Compiling "script.js" from ESM to CommonJS.... The final, successful fix involved adding an explicit build rule to vercel.json: { "src": "public/\*\*", "use": "@vercel/static" }. This rule forces the Vercel build system to recognize the /public directory's contents as static assets and deploy them correctly, resolving the 404 errors.**
  + **Key Files Modified: vercel.json**
* **Entry: Saturday, July 5, 2025 - 10:43 PM CEST (Dashboard UI/UX Overhaul)**
  + **Objective: Transition from the proof-of-concept index.html to a professional, interactive, and modern dashboard UI using dashboard.html as the new foundation.**
  + **Key Files Modified: dashboard.html (renamed to index.html), script.js (new version created as dashboard.js), index\_old.html (backup created).**
  + **Feature 1: New Visual Design A clean, light-themed design was implemented with a professional color palette and typography (Inter for UI, Manrope for data). The layout was updated to a two-panel system with a persistent sidebar.**
  + **Feature 2: Interactive KPI Cards The main KPI cards (Occupancy, ADR, RevPAR) were made interactive. Clicking a KPI card now updates the charts and tables below to display data for the selected metric. The active KPI card is highlighted with a distinct visual style to provide clear user feedback.**
  + **Feature 3: Advanced Charting Synchronized Tooltips: Hovering over a data point on one chart now simultaneously displays the corresponding tooltip on the other chart, allowing for direct visual comparison. Conditional Shading: The area between the "Your Hotel" and "The Market" lines on the comparison chart is now subtly shaded green when your performance is higher and red when it is lower. Dynamic Y-Axis: The Y-axis for the Occupancy chart is now fixed from 0-100% for clarity, while other metrics use an auto-scaling axis.**
  + **Feature 4: Table Enhancements Synchronized Highlighting: Hovering over a row in one table now highlights the corresponding row in the other table. Dynamic Delta Column: A "Delta" column was added to the market table, which dynamically calculates and displays the difference between your hotel and the market for the currently active KPI.**
  + **Bug Fixes: Fixed a bug where RevPAR was always displaying as 0 by dynamically calculating it in the backend API. Corrected a data scaling issue where the Occupancy chart line was not displaying correctly.**
* **Entry: Sunday, July 6, 2025 - Morning Session**
  + **Objective: Debug a failing Vercel cron job and refactor its core logic to meet new business requirements for daily forecast refreshing.**
  + **Key Files Modified: daily-refresh.js, package.json, vercel.json.**
  + **1. Problem Summary The Vercel cron job configured to run daily-refresh.js was failing to execute. Once triggered manually, it produced a cascade of errors, starting with module system conflicts, followed by multiple API payload errors, and finally a database write error. Furthermore, the script's fundamental purpose was misaligned with the project's goal; it was only updating yesterday's data, not the future forecast.**
  + **2. Debugging & Resolution Narrative The resolution process was iterative, tackling each layer of the application stack from the runtime environment down to the data processing logic.**
    - **Part 1: Resolving the Module System Conflict (ERR\_REQUIRE\_ESM)**
      * **Problem: The initial failure was an ERR\_REQUIRE\_ESM error in the Vercel logs.**
      * **Diagnosis: The script was written using ES Module (import) syntax for the node-fetch package, but the project's Vercel environment defaults to the CommonJS module system.**
      * **Solution:**
        + **The node-fetch dependency in package.json was downgraded from v3+ (ESM-only) to a CommonJS-compatible version (^2.7.0).**
        + **All import statements in daily-refresh.js were converted to require().**
        + **The export default statement was changed to module.exports to make the file fully CommonJS compliant.**
    - **Part 2: Correcting API Payload Errors (400 Bad Request)**
      * **Problem: Once the script was running, the Cloudbeds API consistently rejected the request with 400 Bad Request errors.**
      * **Diagnosis & Solution: By inspecting the specific error messages from the API, several issues in the request payload were fixed sequentially:**
        + **Missing property\_ids: The required key was added to the payload.**
        + **Incorrect Operator: The filter operator was corrected from "equal" to "equals".**
        + **Invalid Column Name: The requested column "occupancy\_direct" was corrected to "occupancy", aligning it with the project's data map.**
        + **Missing group\_rows: The mandatory key was added, which is required by the API when fetching the occupancy metric.**
    - **Part 3: Fixing the Database Write Error (Invalid Input Syntax)**
      * **Problem: After the API call succeeded, the script failed at the final step with a PostgreSQL error: invalid input syntax for type numeric: '-'.**
      * **Diagnosis: The Cloudbeds API was returning a hyphen (-) for certain metrics that could not be calculated. The script was attempting to insert this non-numeric string into a numeric database column.**
      * **Solution: A sanitizeMetric helper function was added to daily-refresh.js. This function ensures that any value received from the API is parsed, and if it's not a valid number, it defaults to 0 before being sent to the database.**
    - **Part 4: Refactoring the Core Forecast Logic**
      * **Problem: It was identified that the script's logic was fundamentally misaligned with the business need. It was only updating yesterday's data, while the requirement was to refresh the full 365-day future forecast daily.**
      * **Solution: The script was completely refactored.**
        + **The date logic was changed to calculate a rolling 365-day window from the current day forward.**
        + **A new aggregateForecastData function was implemented, adapting the robust aggregation logic from initial-sync.js. This new function correctly handles multi-day bookings by summing data points for each day instead of overwriting them, fixing the final data integrity bug.**
        + **The database operation was placed inside a for loop to process each of the 365 days returned by the API, performing an UPDATE for each day.**
    - **Part 5: Final Timezone Configuration**
      * **Problem: The cron schedule in vercel.json was not set to the desired local time (6 AM Poland).**
      * **Solution: The schedule was updated to "0 4 \* \* \*", which corresponds to 4:00 AM UTC, ensuring the job runs at the correct local time.**
* **Entry: Sunday, July 6, 2025 - 8:20 PM CEST**
  + **Objective: Implement a reliable system to display the timestamp of the last successful data refresh on the dashboard.**
  + **Key Files Modified: daily-refresh.js, server.js, dashboard.js.**
  + **Database Schema Changes: A new system\_state table was created to act as a persistent log book. The SQL command used was: CREATE TABLE system\_state (key TEXT PRIMARY KEY, value JSONB);. This table is designed to store key-value pairs, with the last\_successful\_refresh key holding the timestamp.**
  + **Backend Changes (daily-refresh.js): The cron job script was updated with a final step. After all forecast data has been successfully written to the database, it now executes an INSERT ... ON CONFLICT DO UPDATE query to save the current UTC timestamp into the system\_state table with the key last\_successful\_refresh. This ensures the timestamp is only ever updated on a fully successful run.**
  + **Backend Changes (server.js): A new, lightweight API endpoint was created at /api/last-refresh-time. This endpoint connects to the database, queries the system\_state table for the last\_successful\_refresh key, and returns the stored timestamp in a JSON response.**
  + **Frontend Changes (dashboard.js): A new async function, fetchAndDisplayLastRefreshTime, was added. This function is called when the page loads. It makes a fetch request to the new /api/last-refresh-time endpoint. On success, it formats the returned UTC timestamp into the user's local timezone (Europe/Warsaw) and displays it in the dashboard header. It includes robust try...catch error handling, which displays a fallback message with the current time if the API call fails, preventing the UI from breaking.**
* **Entry: Sunday, July 6, 2025 - 10:55 PM CEST**
  + **Objective: Complete the "Version 1.0" of the dashboard by connecting all UI elements to live data, fixing all calculation and UX bugs, and implementing a professional loading experience.**
  + **Key Files Modified: dashboard.html, dashboard.js, server.js.**
  + **Live Data Integration: The loadDataFromAPI function in dashboard.js was fully implemented. It now fetches detailed granular data for the charts/tables and overall KPI summary data from the backend in parallel. A processAndMergeData function was created to transform the raw API data into the unified format required by the frontend rendering logic.**
  + **Calculation Bug Fixes:**
    - **ADR/RevPAR: A critical bug causing incorrect ADR and RevPAR calculations on weekly/monthly views (the "average of averages" problem) was fixed. The SQL queries in server.js for both /api/metrics-from-db and /api/competitor-metrics were modified to use SUM(total\_revenue) / SUM(rooms\_sold) for correct, weighted calculations.**
    - **KPI Summary Accuracy: A new dedicated endpoint, /api/kpi-summary, was created to provide mathematically correct, period-wide KPIs, completely separate from the granular chart data. This ensures the KPI cards are always accurate for the entire selected date range.**
    - **Occupancy Calculation: A bug where Occupancy was showing as 0% on the KPI cards was fixed. This was caused by integer division in the database. The SQL queries in server.js were updated to cast the values to NUMERIC (::NUMERIC) to ensure correct floating-point division.**
  + **UX & UI Polishing:**
    - **KPI Card Interaction: A bug was fixed where clicking on the ADR or RevPAR cards did not update the main chart. The setActiveMetric function was corrected to re-render the chart. A subtle fade effect was also added to non-active cards to improve the visual cue for interactivity.**
    - **Presets & Defaults: The date presets were updated to "Current Month", "Next Month", and "This Year". The dashboard now correctly defaults to showing the "Current Month" on page load. A timezone bug in the date formatting helper function was also fixed to prevent dates from being off by one day.**
    - **Chart Visualization: A bug where the chart appeared empty when only a single day was selected was fixed. The chart now intelligently switches from a 'line' to a 'bar' type to ensure single data points are always visible.**
    - **Loading Experience: A new, more elegant loading sequence was implemented. The dashboard content is now initially hidden. A clean, non-jumping, fixed-position spinner is shown on first load, after which the content smoothly fades in, preventing any "flash" of empty tables or flickering. The full-page loader is now only used for the initial page load to make subsequent interactions feel more responsive.**
    - **Dynamic Titles: The dashboard now fetches the hotel's name from the database and dynamically inserts it into the main table and chart titles for a more personalized experience.**
  + **Domain & Strategy:**
    - **Domain: The custom domain market-pulse.io has been purchased and connected to the Vercel project. Awaiting DNS propagation for the changes to take effect globally.**
    - **Next Steps: It was determined that the current single-user application is now feature-complete for its "Version 1.0". The next major development phase ("Version 2.0") will focus on preparing the application for public use and Cloudbeds certification. This will involve implementing a full OAuth 2.0 authentication flow and refactoring the application for multi-tenancy. This work will be treated as a separate, subsequent project phase.**

**Entry: Monday, July 7, 2025 - 9:45 AM CEST**

**Objective:** Execute a major architectural refactoring of the frontend file structure to support a new, public-facing marketing website and create a clear separation of concerns between the public site, the user application, and the internal admin panel.

**Strategic Driver:** The previous flat file structure within the

/public directory was insufficient for the new strategic requirement of having a public-facing "storefront" for the market-pulse.io domain. This refactoring establishes a professional and scalable architecture that cleanly isolates the three main components of the web presence, preparing the project for future growth.

**New Frontend Architecture:** The frontend is now organized into a three-part structure, with each component housed in its own directory to ensure independence and clarity:

1. **Marketing Site (/public/index.html):** The new root of the website, serving as the public homepage.
2. **Web Application (/public/app/):** A dedicated subdirectory for the secure, behind-login user dashboard. This is the intended destination for app.market-pulse.io.
3. **Admin Panel (/public/admin/):** A dedicated subdirectory for the internal control panel, repurposed from the original UI.

**Final File Tree Structure:**

public/

│

├── index.html // NEW: Marketing Homepage

│

├── app/

│ ├── index.html // User Application Dashboard

│ └── dashboard.js

│

├── admin/

│ ├── index.html // Internal Admin Panel

│ └── admin.js

│

└── constants.js // Shared resource

**Key File Modifications (Creations, Moves, and Renames):**

* **New File:** A new public/index.html was created to serve as the marketing page.
* **Application Move:**
  + The primary dashboard, public/dashboard.html, was moved and renamed to public/app/index.html.
  + Its corresponding script, public/dashboard.js, was moved to public/app/dashboard.js.
* **Admin Panel Move:**
  + The original UI file,  
     public/index.html, was moved and renamed to  
     public/admin/index.html.
  + Its original script,  
     public/script.js, was moved and renamed to  
     public/admin/admin.js.

**Bug Fixes Post-Refactoring:**

* **Fixed Broken Module Imports:**
  + **Problem:** After moving the scripts into subdirectories, the JavaScript import for the shared constants.js file was failing with a 404 Not Found error.
  + **Root Cause:** The import path (./constants.js) is relative. The browser was looking for the file inside the /app and /admin subdirectories, where it does not exist.
  + **Solution:** The import paths in both public/app/dashboard.js and public/admin/admin.js were corrected to ../constants.js. This ../ correctly navigates one directory level up, allowing the scripts to find the constants.js file in the root of the /public directory.

**Entry: Monday, July 7, 2025 - 11:20 AM CEST**

**Objective:** Overhaul the Admin Panel to serve as a comprehensive "mission control" for the application, including security, system health checks, and manual data triggers.

**1. Security Implementation (Code-Based)**

* **Requirement:** Secure the /admin path without using Vercel's paid Password Protection feature.
* **Solution:** A free, application-level password system was implemented.
  + **Frontend:** admin.html was modified to display a login form by default, hiding the main content. admin.js now sends the entered password to a new backend endpoint.
  + **Backend:** A new endpoint, /api/admin-login, was created in server.js. It securely compares the submitted password against a secret ADMIN\_PASSWORD stored as an environment variable in Vercel.
  + **Local Development:** The local .env file was updated to include ADMIN\_PASSWORD to enable local testing.

**2. UI/UX Unification**

* **Requirement:** The admin panel and user dashboard should feel like a single, cohesive application.
* **Solution:**
  + public/admin/index.html was completely redesigned to use the same layout shell as the main dashboard, including the persistent sidebar and header.
  + A link to the "Admin Panel" was added to the sidebar navigation in public/app/index.html for seamless navigation.

**3. New Admin Panel Features**

* **System Health Dashboard:** A new "System Health" section was added to admin.html to provide an at-a-glance overview of the application's status.
  + **Last Refresh:** Automatically checks and displays the timestamp of the last successful cron job run.
  + **Cloudbeds API Test:** A "Test" button was added that calls a new /api/test-cloudbeds endpoint to verify the API connection and token validity.
  + **Database Test:** A "Test" button was added that calls a new /api/test-database endpoint to verify the database connection.
* **Manual Action Triggers:**
  + **Daily Refresh:** A "Run Job" button was added to manually trigger the daily forecast refresh. This calls the existing /api/daily-refresh endpoint.
  + **Initial Sync:** A "Run Full Sync" button was added to trigger a complete re-sync of all historical and forecast data. This required converting initial-sync.js into a serverless function module and creating a new /api/initial-sync endpoint in server.js to run it.

**4. Blocking Issue & Current Status**

* **Problem:** After implementing the new admin endpoints, the server fails to start, crashing immediately with a TypeError.

**Error Log:**TypeError: Missing parameter name at 2: https://git.new/pathToRegexpError

at name (/Users/karolmarcu/Documents/market-pulse/node\_modules/path-to-regexp/dist/index.js:73:19)

...



### **Monday, July 7, 2025 - 1:20 PM CEST**

**Entry: Major Debugging & Refactoring Session**

A series of critical bugs were identified and resolved, stabilizing the local development environment and significantly improving data integrity.

* **Server Startup Crash (SOLVED)**
  + **Problem**: The server was failing to start, throwing a TypeError: Missing parameter name originating from the Express.js framework.
  + **Investigation**: Initial debugging focused on route syntax, module conflicts in initial-sync.js, and clearing corrupted node\_modules. None of these fixed the startup crash.
  + **Root Cause**: The issue was traced to an instability in the beta version of Express being used (express@^5.1.0).
  + **Solution**: The application was downgraded to the latest stable version of Express (express@^4.19.2). This immediately resolved the startup crash.
* **Data Integrity & Sync Logic (SOLVED)**
  + **Problem**: The "Full Initial Data Sync" was only populating the database with a small fraction of the historical data, starting from June 28, 2025, instead of the expected 365 days prior.
  + **Root Cause**: The initial-sync.js script did not account for API pagination. It was making one request and processing only the first "page" of data returned by the Cloudbeds API.
  + **Solution**: The initial-sync.js script was refactored to make API calls in a do...while loop. It now repeatedly fetches pages of data until the API confirms there are no more results, ensuring the full two-year data range is retrieved and stored.
* **Historical Capacity Discrepancy (CLARIFIED)**
  + **Observation**: The dashboard showed 100% occupancy for some dates in June because the capacity\_count was 2, while the current capacity is 13.
  + **Conclusion**: It was confirmed that the property's capacity was indeed 2 during that historical period. The Cloudbeds API and the sync script were functioning correctly by providing accurate point-in-time historical data. This was deemed correct behavior, not a bug.
* **Dashboard Hotel Name (IN PROGRESS)**
  + **Problem**: A SyntaxError: Unexpected token '<' error occurs in the browser when the dashboard attempts to display the hotel's name.
  + **Root Cause**: The frontend (dashboard.js) was making a fetch request to an API endpoint (/api/get-hotel-name) that did not exist on the backend (server.js).
  + **Attempted Solution**: The missing /api/get-hotel-name endpoint was created and added to server.js to fetch the name from the database. The frontend was also corrected to call the proper URL.
  + **Current Status**: The error persists after initial fixes. Further debugging on this specific feature has been paused.

