# OMNIFOLIO

Proprietary Intelligence Platform · 

# Proprietary Intelligence Services

Technical Overview · Architecture, Scoring Algorithms & Data Pipelines

February 18, 2026

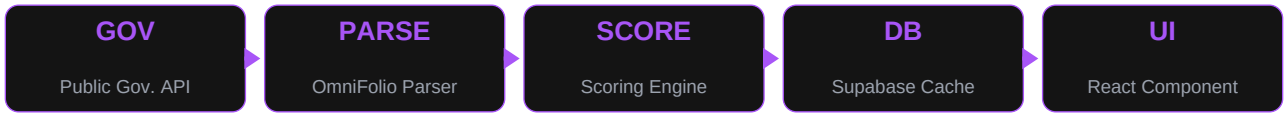
6 Proprietary Services | 0 Third-Party APIs | 100% Public Data Sources

## Executive Summary

OmniFolio is a next-generation financial intelligence platform built entirely on **public government data sources** — zero paid third-party APIs, zero data vendor lock-in. Every intelligence layer is proprietary: the scoring models, the data pipelines, the caching architecture, and the front-end components are all original work. The platform aggregates data from the SEC EDGAR, US Senate LDA, USAspending.gov, US Bureau of Labor Statistics, Federal Reserve, and other authoritative public sources, transforming raw filings into actionable investment signals.

| Service | Data Source | Proprietary Score | Refresh Cadence |
|---|---|---|---|
| Economic Calendar | BLS · Fed · ECB · BoE · BoJ | — | On-demand seeding |
| IPO Calendar | SEC EDGAR (S-1/F-1/424B4) | — | 6-hour background |
| Earnings Calendar | SEC EDGAR (8-K/10-Q/10-K) | — | 6-hour background |
| Earnings Surprises | SEC EDGAR + DB cache | OES Score | Per-ticker refresh |
| Insider Sentiment | SEC EDGAR Form 4 | OIC Score | Market-hours TTL |
| Senate Lobbying | US Senate LDA API | OLI Score | 7-day TTL |
| USA Spending | USAspending.gov API v2 | OGI Score | 7-day TTL |

## Architecture Principle




All services follow the same architecture: raw public filings are ingested, parsed, and fed into proprietary scoring algorithms. Results are stored in Supabase with smart TTL caching (stale-while-revalidate). The React UI layer always shows data immediately from cache while background revalidation keeps it fresh — sub-100ms API responses.

01

# Economic Calendar

Proprietary macro event engine — zero external dependencies

## Overview

The OmniFolio Economic Calendar is a fully self-contained macro event scheduler. Rather than consuming paid calendar APIs (ForexFactory, Trading Economics, Bloomberg), we maintain our own curated database of recurring event rules compiled from official government release schedules. This is exactly how institutional platforms operate. The engine generates accurate event dates for any time horizon, works offline, never rate-limits, and costs zero per API call.

## Data Sources

| Authority | Examples | Coverage |
|---|---|---|
| US BLS | CPI, PPI, NFP, Jobless Claims | Monthly / Weekly |
| US Census Bureau | Retail Sales, Durable Goods, Housing Starts | Monthly |
| Federal Reserve | FOMC Rate Decision, Fed Chair Press Conf. | ~6-week intervals |
| BEA | GDP Advance, PCE, Personal Income | Quarterly / Monthly |
| ECB | Interest Rate Decision | Every 6 weeks |
| Bank of England | MPC Rate Decision | 8× per year |
| Bank of Japan | Monetary Policy Decision | 8× per year |
| ISM | Manufacturing PMI, Services PMI | Monthly |

## Scheduling Engine

Events are defined by **recurring rule types** that deterministically compute the correct calendar date for any given month. Rules handle edge cases like "last business day adjustment" (weekend/holiday shift), "Nth weekday of month", "every N weeks from anchor date" (FOMC pattern), and simple weekly cadences.

| Rule Type | Used For | Example |
|---|---|---|
| weekday-of-month | Fixed occurrence in a month | FOMC — 1st Tue of Jan/Mar/May… |
| day-of-month | Fixed day number | CPI — 15th of each month (adjusted) |
| weekly | Every week same day | Initial Jobless Claims — every Thursday |
| interval-weeks | N-week spacing from anchor | Fed rate decisions — every ~6 weeks |

## Key Features

- **Impact Classification**
  High / Medium / Low · Color-coded alerts
- **Multi-Country Coverage**
  US · EU · UK · Japan · Flag & timezone support
- **Forecast vs Actual**
  Live DB updates with % delta vs prior period
- **Zero Rate Limits**
  All data is in Supabase — no external calls at runtime
- **Persistent Cache**
  Seeded into DB once, served from cache forever
- **Infinite Scale**
  N concurrent users, same sub-5ms DB response

02

# Proprietary IPO Calendar

Real-time IPO pipeline sourced directly from SEC EDGAR filings

## Overview

The OmniFolio IPO Calendar ingests registration statements directly from the SEC Electronic Data Gathering, Analysis, and Retrieval system (EDGAR). No IPO data vendor is needed — the SEC publishes all S-1, F-1, and 424B4 filings publicly. OmniFolio parses these filings, filters noise, enriches with company metadata, and maintains a live database of upcoming and recent IPO events.


## Data Pipeline

| Step | Action | Detail |
|---|---|---|
| 1 | SEC EDGAR EFTS Fetch | Query full-text search index for S-1, F-1, 424B4 filing types |
| 2 | SPAC/ETF Filter | Exclude blank-check companies, investment trusts, secondary offerings |
| 3 | Company Enrichment | Hit SEC submissions API for name, SIC, exchange, sector, industry |
| 4 | Public Co. Filter | Exclude companies already filing 10-K/10-Q (already public) |
| 5 | Status Classification | filed → expected → priced → withdrawn based on filing type |
| 6 | Supabase Upsert | Idempotent upsert into ipo_calendar table (conflict on accession) |
| 7 | Background Refresh | 6-hour cooldown; stale-while-revalidate for instant UI |

## Filing Types & Status Mapping

| Filing Type | Meaning | IPO Status |
|---|---|---|
| S-1 | Initial domestic registration statement | filed |
| S-1/A | Amendment to S-1 (price update, schedule update) | expected (if price range) |
| F-1 | Initial registration — foreign private issuer | filed |
| F-1/A | Amendment to F-1 | expected (if price range) |
| 424B4 | Final prospectus — IPO is confirmed & priced | priced |
| RW | Registration withdrawal | withdrawn |

## Key Features

- **Live SEC Pipeline**
  Direct EDGAR EFTS — no IPO data vendor needed
- **Sector Classification**
  SIC→sector mapping from SEC submissions API
- **Price Discovery**
  Price range and final offer price from filings
- **Deal Size Calc**
  Shares × Price = deal size in real-time
- **4-Hour Local Cache**
  Browser localStorage cache for instant re-render
- **10-min Auto-Refresh**
  Background polling — always fresh without page reload

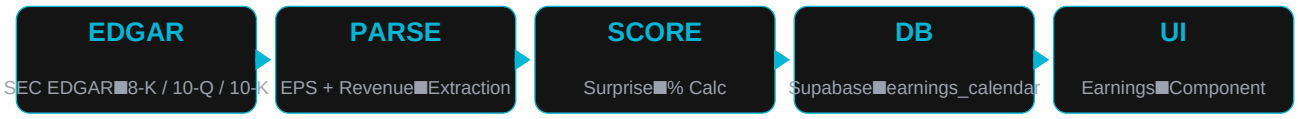
03

# Earnings Calendar & Surprises

SEC EDGAR-powered earnings tracker with EPS/Revenue surprise scoring

## Earnings Calendar

Like the IPO Calendar, the Earnings Calendar sources all data from SEC EDGAR rather than paid earnings data vendors. The pipeline ingests 8-K Item 2.02 filings (earnings announcements), 10-Q filings, and 10-K filings. EPS and revenue estimates are stored alongside actuals to compute surprise metrics in real-time.




## Earnings Surprises View

The Earnings Surprises View is a per-ticker deep-dive component showing up to 12 quarters of historical EPS performance. It renders a bar chart of actuals vs estimates, highlights beats (green) and misses (red), and computes the **OmniFolio Earnings Score (OES)** — a composite signal of earnings quality.

| Metric | Calculation | Signal |
|---|---|---|
| EPS Beat % | (Actual – Estimate) / \|Estimate\| × 100 | Green if > 0, Red if < 0 |
| Revenue Beat % | (Actual – Estimate) / Estimate × 100 | Green if > 0, Red if < 0 |
| Surprise Streak | Consecutive quarters of EPS beats | Quality indicator |
| Beat Rate (TTM) | % of last 4Q where EPS beat estimate | Reliability score |
| Magnitude Score | Avg \|surprise %\| over trailing 8Q | Volatility of guidance |

## Key Features

- **Filing Type Badges**
  8-K · 10-Q · 10-K — color-coded per type
- **Pre/Post Market Flag**
  Before open / after close reporting time
- **12-Quarter Chart**
  Visual EPS actual vs estimate bar chart
- **Sector Filters**
  Filter events by GICS sector from SIC codes
- **Expandable Rows**
  Inline drill-down with SEC filing link
- **Stale-While-Revalidate**
  Instant render from cache; silent background refresh

04

# Insider Sentiment · OIC Score

OmniFolio Insider Confidence Score from SEC EDGAR Form 4 filings

## Overview

The OIC (OmniFolio Insider Confidence) Score is a multi-factor signal derived exclusively from SEC EDGAR Form 4 filings — the mandatory disclosure insiders (officers, directors, 10%+ shareholders) must file within 2 business days of any transaction. No insider data vendor is used. The score aggregates monthly transaction history, weights by insider role, detects cluster buying/selling, and normalises to a 0–100 scale.

## OIC Scoring Formula

```
OIC = clamp( NPR×0.25 + VWS×0.30 + IRW×0.20 + CS×0.15 + CB×0.10, 0, 100 )
```

NPR 25% 25% VWS 30% 30% IRW 20% 20% CS 15% 15% CB 10% 10%

| Component | Abbr. | Weight | Formula / Logic |
|---|---|---|---|
| Net Purchase Ratio | NPR | 25% | (buys – sells) / (buys + sells) × 100 |
| Value Weighted Signal | VWS | 30% | (buyValue – sellValue) / (buyValue + sellValue) × 100 |
| Insider Role Weight | IRW | 20% | Role-weighted buy/sell ratio (CEO > Director > 10%+ Owner) |
| Cluster Signal | CS | 15% | +20 bonus when 3+ insiders act in same month (cluster flag) |
| Consistency Bonus | CB | 10% | Sustained buying/selling signal across consecutive months |

## Score Labels

| OIC Range | Label | Signal |
|---|---|---|
| 75 – 100 | Strong Buy | Heavy cluster buying, officers leading, sustained trend |
| 55 – 74 | Buy | Net buying across multiple roles, above-average spend |
| 35 – 54 | Neutral | Mixed signals, small net position, no cluster flag |
| 15 – 34 | Sell | Net selling dominates, value-weighted negative |
| 0 – 14 | Strong Sell | Heavy cluster selling, officer-led, sustained exits |

## Key Features

- **Role Weighting** — CEO/CFO/COO buys carry 2× weight vs directors
- **Cluster Detection** — Flag when 3+ distinct insiders act in the same month
- **Monthly Aggregation** — Up to 24-month rolling history per ticker
- **Trend Analysis** — improving / declining / stable — 3-month momentum
- **Transaction Drill-down** — Per-transaction table with accession number & SEC link
- **Market-Hours TTL** — Cache expires at market close; refresh on open next day

05

# Senate Lobbying · OLI Score

OmniFolio Lobbying Influence Score from US Senate LDA Database

## Overview

The OLI (OmniFolio Lobbying Influence) Score quantifies a corporation's political influence through the lens of its lobbying activity. Data is sourced from the US Senate Lobbying Disclosure Act (LDA) Database — a public API that requires no authentication and publishes all registered lobbying filings since 1999. The score captures spend magnitude, issue breadth, government reach, lobbyist deployment, consistency, and trend direction.

## OLI Scoring Formula

```
OLI = clamp( SM×0.30 + IB×0.15 + GR×0.15 + LC×0.10 + CO×0.15 + TR×0.15, 0, 100 )
```

SM 30% 30% IB 15% 15% GR 15% 15% LC 10% 10% CO 15% 15% TR 15% 15%

| Component | Abbr. | Weight | Formula / Logic |
|---|---|---|---|
| Spend Magnitude | SM | 30% | Total $ spent (log-scaled) relative to peer companies |
| Issue Breadth | IB | 15% | Number of distinct LDA issue area codes lobbied |
| Government Reach | GR | 15% | Number of distinct federal entities / agencies contacted |
| Lobbyist Count | LC | 10% | Total unique individual lobbyists deployed by registrants |
| Consistency | CO | 15% | Number of quarters with active filings (sustained campaign) |
| Trend | TR | 15% | Spend direction: increasing (+) / decreasing (–) / stable (0) |

## Data Depth

The LDA database covers **79+ issue area codes** ranging from Aerospace and Banking to Healthcare, Homeland Security, Telecommunications, and Taxation. Each quarterly filing includes: client/registrant names, specific issue descriptions, named individual lobbyists, and targeted government entities — giving a complete picture of a company's Washington presence.

## Key Features

- **79+ Issue Areas** — Full LDA issue code taxonomy mapped to readable names
- **Quarterly Timeline** — OLI score plotted per quarter — trend visualization
- **Registrant Breakdown** — Top lobbying firms employed and spend per firm
- **Government Entity Map** — Which agencies are being lobbied (DoD, FDA, SEC…)
- **7-Day Smart Cache** — Quarterly data changes slowly — long TTL appropriate
- **Autocomplete Search** — SEC EDGAR company search for any public company

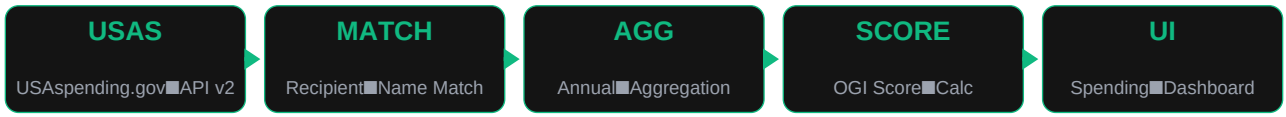
06

# USA Spending · OGI Score

OmniFolio Government Influence Score from USAspending.gov federal contracts

## Overview

The OGI (OmniFolio Government Influence) Score measures a company's dependence on and influence within the federal contracting ecosystem. Data comes exclusively from USAspending.gov — the official public repository of all federal awards, contracts, grants, and loans mandated by the Digital Accountability and Transparency Act (DATA Act). The API is public, requires no authentication, and allows 120 requests/minute.




## OGI Scoring Components

| Component | Signal | Detail |
|---|---|---|
| Total Obligation (TO) | **Scale** | Total federal $ awarded — log-normalised to 0–40 pts |
| Agency Diversification (AD) | **Breadth** | Number of distinct awarding agencies — 0–20 pts |
| Award Type Mix (ATM) | **Complexity** | Contracts vs Grants vs IDV vs Loans — 0–15 pts |
| Geographic Spread (GS) | **Reach** | Number of states with active performance — 0–15 pts |
| YoY Growth (GR) | **Trend** | Year-over-year obligation growth rate — 0–10 pts |

## Award Data Fields

Each award record contains: Award ID, Award Type (Contract/Grant/IDV/Loan), Action Date, Fiscal Year, Total Obligation ($), Awarding Agency, Sub-Agency, Recipient Name, UEI (Unique Entity Identifier), NAICS Code/Description, PSC Code (Product/Service Code), Performance Location (city/state/country), Congressional District, and a permalink to the USAspending.gov award page.

| Award Type | Description | Typical Companies |
|---|---|---|
| Contract (A/B/C/D) | Direct procurement for goods/services | Defense, IT, Construction |
| Grant (02/03/04) | Financial assistance — no goods delivered | Research, Healthcare, Education |
| IDV — IDIQ/BPA/FSS | Indefinite-delivery vehicles (framework agreements) | Consulting, IT Services |
| Loan / Loan Guarantee | Federal loans & loan guarantees | Energy, Housing, Small Business |
| Direct Payment | Direct financial assistance to individuals/entities | Agriculture, Disaster Relief |

## Key Features

- **Annual Chart**
  Total obligations by fiscal year — bar chart
- **Agency Breakdown**
  Top awarding agencies with % of total spend
- **Award Type Donut**
  Contract vs Grant vs IDV vs Loan distribution
- **State Distribution**
  Performance location heat map by state
- **30-Result Pagination**
  Full award table with description & USAspending link
- **Popular Contractors**
  Quick-access grid for top government contractors

07

# Caching & Infrastructure

Smart TTL, stale-while-revalidate, Supabase-backed persistence

## Caching Strategy

Every proprietary service uses a two-layer caching strategy. Layer 1 is a browser-side localStorage cache for instant re-renders without network latency. Layer 2 is a Supabase PostgreSQL table that acts as the source of truth. The pattern is **stale-while-revalidate**: the UI renders stale data immediately, then triggers a background refresh. This achieves both speed and freshness.

| Service | L1 Cache (Browser) | L2 Cache (Supabase) | Refresh Trigger |
|---|---|---|---|
| Economic Calendar | — | DB-seeded | Manual or scheduled seed |
| IPO Calendar | 4-hour localStorage | 6-hour background API | Force refresh button |
| Earnings Calendar | 4-hour localStorage | 6-hour background API | Force refresh button |
| Insider Sentiment | — | Market-hours TTL | Per-ticker on load + stale-check |
| Senate Lobbying | — | 7-day TTL | Per-ticker on load + ?refresh=true |
| USA Spending | — | 7-day TTL | Per-ticker on load + ?refresh=true |

## API Cost Comparison

| Service | OmniFolio Approach | Equivalent Paid API | Typical Cost/Month |
|---|---|---|---|
| Economic Calendar | BLS + Fed + ECB + BoJ (FREE) | Trading Economics Pro | $300–$3,000 |
| IPO Calendar | SEC EDGAR (FREE) | Nasdaq Data Link IPO | $500–$2,000 |
| Earnings Calendar | SEC EDGAR (FREE) | Intrinio / FactSet | $200–$1,500 |
| Insider Sentiment | SEC EDGAR Form 4 (FREE) | OpenInsider Pro / Quiver | $50–$500 |
| Senate Lobbying | Senate LDA API (FREE) | Quiver Quant / OpenSecrets | $100–$800 |
| USA Spending | USAspending.gov (FREE) | Govini / Input.io | $500–$5,000 |
| **TOTAL** | **100% Free** | **—** | **$1,650 – $12,800/mo** |

## Infrastructure Stack

- **Next.js 14 App Router**
  Server components + API routes for all data pipelines
- **Supabase PostgreSQL**
  Row-level security, smart TTL tables, upsert semantics
- **TypeScript End-to-End**
  Full type safety from DB schema to React component
- **Tailwind CSS + Recharts**
  Dark-mode UI with custom chart components
- **Vercel Edge Runtime**
  Global CDN deployment, <50ms TTFB worldwide
- **Zero Vendor Lock-in**
  All data sources are public gov APIs — no dependency risk