Business Brain

User Manual

AI-Powered Manufacturing Intelligence Platform

Version 3.0

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Table of Contents

This manual is written for plant managers, department heads, and operations teams who use Business Brain day-to-day. No technical knowledge is required.

1. Getting Started

Business Brain is a web application. Open it in any modern browser (Chrome, Edge, Safari, Firefox). No installation is required on your computer.

What Business Brain Does

- Collects data from all your systems automatically (ERP, SCADA, Google Sheets, manual uploads)
- Understands your data by classifying columns, finding relationships, and detecting patterns
- Discovers insights proactively - anomalies, trends, correlations - without you asking
- Alerts you on Telegram or in the app when something needs attention
- Answers questions in plain English about any aspect of your business data

First-Time Setup

1. Open Business Brain in your browser.
2. Go to the Sources tab and connect your first data source (a Google Sheet or CSV upload).
3. Go to the Setup tab and fill in your company details and metric thresholds.
4. Return to the Feed tab - the system will start discovering insights automatically.

> *Tip: You can start using Business Brain with zero setup. Just upload a CSV. But the more context you give it, the smarter it gets.*

2. Feed - Your Morning Dashboard

The Feed is the first thing you see when you open Business Brain. It shows everything that needs your attention: discovered insights, triggered alerts, and data quality issues - all ranked by priority.

What You'll See

- Insight cards - patterns, anomalies, and correlations the system found automatically
- Alert notifications - rules you deployed that were triggered (e.g., truck count exceeded 40)
- Data issues - quality problems like impossible values or cross-source conflicts
- Each card is colour-coded: red = critical, yellow = warning, blue = informational

How to Use It

- Filter by type using the buttons at the top: All | Alerts | Insights | Data Issues
- Filter by status: New | Seen | Dismissed
- Click any card to drill down - the system re-runs a focused analysis on that specific finding
- Click 'Scan Now' to manually trigger a fresh discovery sweep
- Export insights as JSON or CSV for reporting

> *Tip: Check the Feed every morning. It's designed to surface what matters most, so you don't have to search for it.*

3. Analyze - Ask Anything

The Analyze tab lets you ask any business question in plain English. The system assembles a team of AI agents to research the answer: one generates SQL queries, another interprets the results, another runs calculations, and a CFO agent provides a verdict.

How to Use It

1. Type your question in the input box. Examples:
- "What was the production trend last month?"
- "Which supplier has the highest defect rate?"
- "Compare energy consumption across shifts"
2. Click Analyze and watch the pipeline execute.
3. Review the results:
- Key metrics - the headline numbers answering your question
- Charts - visual breakdowns (bar, line, pie, scatter)
- CFO Verdict - an executive summary with approve/flag status
- Findings - detailed insights discovered during analysis
- Computations - the formulas and calculations used (for transparency)

Smart Suggestions

Below the input box you'll see suggestion pills - auto-generated questions based on your data. Click any pill to instantly run that analysis. The suggestions update as you upload new data.

Conversations

Each analysis starts a chat session. You can ask follow-up questions and the system remembers the context. Click 'New Chat' to start fresh.

> *Tip: Be specific. 'Revenue last quarter' is good. 'Revenue last quarter by product and region compared to target' is better.*

4. Reports - Persistent Monitoring

Reports are insights you've pinned for continuous monitoring. Unlike a one-time analysis, a deployed report automatically refreshes whenever the underlying data changes.

How to Create a Report

1. Find an insight in the Feed or run an analysis in the Analyze tab.
2. Click "Deploy as Report" and give it a name (e.g., "Daily Production vs Target").
3. The report appears in the Reports tab and stays up-to-date automatically.

Managing Reports

- View all active reports with their current data
- Export any report as PDF or CSV
- Delete reports you no longer need

> *Tip: Deploy a report for any metric your team checks daily. It saves time versus re-asking the same question.*

5. Alerts - Automated Watchdogs

Alerts let you set up automatic monitoring rules in plain English. When a condition is met, Business Brain sends you a Telegram message or shows it in the Feed.

Deploying an Alert

1. Go to the Alerts tab.
2. Type a condition in the input box:
- "Alert me when truck count exceeds 40"
- "Alert me when production drops 3 days in a row"
- "Alert me if no SCADA data arrives for 30 minutes"
- "Alert me when gate count and VEGA count differ by more than 5"

3. The system shows the parsed rule for your review. Confirm to deploy.

Alert Types

- Threshold - simple value comparison (X > N, X < N)
- Trend - consecutive direction changes (drops 3 days in a row)
- Absence - no data received for N minutes
- Cross-source - two data sources disagree beyond a tolerance
- Pattern - data matches a known signature (e.g., pre-breakdown SCADA readings)
- Composite - calculated metric exceeds a threshold (e.g., power per ton > 500)

Managing Alerts

- Pause an alert temporarily (e.g., during maintenance)
- Edit thresholds as you learn what values are normal
- View trigger history - see every time an alert fired and the values at that moment
- Delete alerts you no longer need

> *Tip: Start with a few high-value alerts and tune thresholds over the first week. Too many alerts cause fatigue.*

6. Sources - Connect Your Data

The Sources tab is where you connect all your data systems. Business Brain can pull data from Google Sheets, REST APIs, and manual file uploads - and keep them automatically synced.

Connecting a Google Sheet

1. Click "+ Google Sheet".
2. Share your Google Sheet with the Business Brain service account email (provided by your admin).
3. Paste the Google Sheet URL or ID.
4. Set the sync frequency (default: every 5 minutes).
5. Click "Connect". The system reads the sheet and loads it into the database.

Connecting an API

1. Click "+ API".
2. Enter the API URL and set a polling frequency.
3. Click "Connect". The system fetches data and loads it automatically.

Source Management

- Each source card shows: name, type, table, last sync time, row count, status
- Sync Now - manually trigger an immediate sync
- Pause / Resume - temporarily stop or restart auto-sync
- Disconnect - remove the source entirely

Recurring Uploads

If you upload a CSV with the same column structure as a previous upload (e.g., daily SCADA exports), Business Brain recognises the format automatically and appends data to the existing table instead of creating a new one. No configuration needed - it just works.

> *Tip: Connect your most critical data sources first: SCADA, production logs, gate register. The system becomes more powerful with more data.*

7. Setup - Company Profile

The Setup tab is where you tell Business Brain about your company. This context helps the system give better recommendations, set smarter default thresholds, and provide more relevant analysis.

Company Basics

- Company name, industry (Steel, Cement, Textile, etc.), products you manufacture

Process Flow

Describe your production process, e.g.: "Scrap iron -> Induction furnace -> Continuous casting -> Rolling mill -> TMT bars"

Data Systems

List all systems you use: "Tally - Financial accounting", "VEGA - Logistics", "SCADA - Electrical monitoring"

Metric Thresholds

This is the most important section. Define what 'normal' looks like for your key metrics:

- Power consumption: normal 300-450 kWh/ton, warning 450-500, critical >500
- Furnace temperature: normal 1500-1650 C
- Quality rejection rate: normal <2%, warning 2-5%, critical >5%

These thresholds power anomaly detection, alerts, and data quality scoring across the entire platform.

> *Tip: You can add thresholds gradually. Start with the 3-5 metrics your team watches most closely.*

8. Quality - Data Health Scores

The Quality tab shows a health score for every table in your database. It checks for: missing values, statistical outliers, impossible values (negative currency, percentages over 100), and future dates on historical data.

- Click 'Refresh Quality Scores' to run a fresh analysis
- Each table gets a 0-100% quality score
- Drill into specific issues to understand what's wrong and how to fix it

> *Tip: A quality score below 80% means the data needs attention before you can trust analysis results from that table.*

9. Relationships - Cross-Table Links

Business Brain automatically detects how your tables relate to each other - matching column names, overlapping values, and semantic types. The Relationships tab shows these detected joins and a data lineage diagram showing how data flows through your system.

- Click 'Refresh Relationships' to detect new connections
- View relationship confidence scores
- Use the lineage view to trace data from source to insight

10. Goals - Track KPIs

Set targets for key metrics and track progress in real time. Click '+ Add Goal', enter a metric name, target value, and direction (above/below/between). The system tracks your current value against the target and shows progress bars.

- Each goal shows: current value, target, progress %, trend direction
- Goals that are off-track appear highlighted in the Feed

11. What-If - Scenario Modelling

Test business scenarios before making decisions. Define a formula (e.g., 'price * qty - cost'), enter base values, then create named scenarios with different assumptions.

- Compare Scenarios - see side-by-side results for optimistic, pessimistic, and custom scenarios
- Breakeven - find the break-even point for any variable
- Sensitivity - see which input has the biggest impact on results

12. Audit Log - Change Tracking

Every data change is logged: when a Google Sheet cell changes, when values are modified during sync, when uploads add or update rows. The Audit Log shows a chronological list of all changes with old value, new value, timestamp, and source.

- Large changes (>20% variance) are highlighted in yellow
- Critical metric changes appear in red
- Use the audit log to investigate data discrepancies or to hold data entry accountable

13. Context - Business Knowledge

The Context tab lets you feed business knowledge into the system that helps it give better analysis. Type information like: 'Enterprise customers generate 80% of revenue', 'Furnace 2 was commissioned in 2019', 'Our quality rejection threshold is 2% per the ISO audit'.

- Type context directly or upload .txt, .md, or .pdf files
- The system chunks and embeds the content for use during every analysis
- More context = better root cause analysis and recommendations

14. Upload - Data Ingestion

Drag and drop any CSV, Excel (.xlsx), or PDF file onto the Upload area. The system automatically:

- Parses the file structure and detects column types
- Cleans data: trims whitespace, fixes encoding, standardises dates
- Deduplicates rows to prevent double-counting
- Matches recurring formats (if you upload the same report daily, it appends instead of creating a new table)
- Triggers a discovery sweep to find new insights in the uploaded data

After upload, you'll see a report showing rows parsed, cleaned, loaded, and any issues found.

15. Schema - Data Dictionary

The Schema tab shows every table in your database with its columns, types, classifications, and sample data. Use it to understand what data is available for analysis.

- Click a table name to expand its columns
- See semantic classification: identifier, currency, percentage, temporal, boolean, etc.
- Click 'View Data' to see actual rows and even edit values inline by double-clicking cells

16. Telegram Alerts

Business Brain can send alert notifications directly to your Telegram account or a team group chat.

Setting Up Telegram

1. Search for the Business Brain bot on Telegram (your admin will provide the bot name).
2. Send the bot a message - it will reply with a registration code.
3. Enter the code in Business Brain (Sources or Settings area) to link your account.
4. When deploying an alert, choose "telegram" as the notification channel.

Alert Message Format

When an alert triggers, you'll receive a message like:

```
ALERT: Gate Truck Count
Current: 43 trucks (threshold: 40)
Time: 2026-02-13 14:32 IST
Source: gate_register (VEGA sync)
View details: [link to web app]
```

Group support: alerts can be sent to a Telegram group (e.g., your 'Logistics Team' group) so the whole team sees it.

17. Tips & Best Practices

Getting the Most Out of Business Brain

1. Connect Everything

The more data sources you connect, the more cross-departmental correlations the system can find. The 'aha' moments come from linking data that was previously in silos - like discovering that procurement quality issues predict production delays two weeks later.

2. Set Thresholds Early

Go to Setup and define what 'normal' looks like for your top 5 metrics. This instantly enables meaningful anomaly detection and prevents false alerts.

3. Start with 3-5 Alerts

Don't deploy 30 alerts on day one. Start with the 3-5 conditions that matter most to your operations. Tune thresholds over the first week as you learn what's truly abnormal versus routine variation.

4. Check the Feed Daily

The Feed is designed to be your morning briefing. Spend 2 minutes reviewing new insights before your day starts. Dismiss items you've seen, drill down on anything surprising.

5. Add Context Gradually

Every piece of business context you add - process descriptions, department relationships, metric definitions - makes the analysis smarter. Add a little bit each week.

6. Use Natural Language

You don't need to know SQL, Python, or any technical language. Ask questions the way you'd ask a colleague: 'Why did rejection rate spike last Tuesday?' or 'Compare this month's power consumption to last month by shift.'

7. Deploy Reports for Recurring Questions

If you find yourself asking the same question every day (production vs target, daily power consumption, pending dispatches), deploy it as a report. It auto-refreshes so you never have to ask again.

For support or feedback, contact your Business Brain administrator.