Solution Brief

Early Pipeline Decision Engine

Accelerating Billion-Dollar Pipeline Decisions With Agentic AI

Introduction

In the pharmaceutical and life sciences industry, early pipeline decisions carry enormous financial and strategic weight. Two distinct decisions sit at the center of this: advancing own-pipeline assets from phase to phase, and evaluating external assets for acquisition. In both cases, every asset moving through Phase I to Phase III clinical trials represents a potential billion-dollar commitment, and those decisions must be made with speed, rigor, and confidence. In Business Development and Mergers and Acquisitions (M&A), where competing firms may be evaluating the same acquisition target simultaneously, the ability to assess commercial value in days rather than weeks can determine whether a deal is won or lost.

Yet traditional early pipeline forecasting is a slow, handcrafted process. A single forecaster typically owns an asset end to end, spending one to two weeks on secondary research, another week building the model, and additional weeks iterating on assumptions with stakeholders. A single forecast can take three to six weeks from start to finish. At that pace, evaluating a large pipeline at scale is operationally impossible. Teams are forced to prioritize which assets are worth an in-depth forecast, often based on intuition rather than evidence. For companies pursuing rare disease portfolios, where data is sparse and disease areas are frequently unfamiliar, the challenge is compounded.

Fragmented data systems, manual model builds, and the absence of scalable real-world evidence further slow the process. Assumptions that cannot withstand C-suite scrutiny trigger rework cycles, extending timelines even further. The result is a forecasting function that spends the majority of its time on data gathering and model maintenance rather than strategic analysis, advisory, and consultancy.

Solution Approach

Axtria's Early Pipeline Decision Engine: A disease-agnostic, agentic platform that delivers commercial-grade forecasts at enterprise scale

Axtria's Early Pipeline Decision Engine (EPDE) is an interconnected, modular platform designed to eliminate the manual bottlenecks that define traditional pipeline forecasting. Built to serve any indication, from well-characterized therapeutic areas to ultra-rare diseases, without requiring reconfiguration, the platform combines Axtria's proprietary forecasting frameworks with purpose-built agentic capabilities. It compresses what previously took three to six weeks into one to two days, without sacrificing the analytical rigor that executive decision-making demands.

Axtria is Redefining Early Pipeline Forecasting with an Integrated, Agentic Architecture

The platform addresses each sequential bottleneck in the forecasting workflow through four tightly integrated components, supported by a consolidated data ecosystem spanning claims databases, syndicated commercial data, published literature, pipeline trackers, and pricing registries:

Disease-Agnostic Landscape Analytics Dashboard

Synthesizes structured and unstructured data across seven sources to generate a publication-quality commercial landscape. Covers disease overview, epidemiology, market outlook, treatment paradigm, pipeline dynamics, and pricing and access. For rare disease indications where boutique landscape reports have historically cost $100,000 to $300,000 per engagement, the dashboard delivers comparable depth at a fraction of the time and cost.

LitSearch Agent

An agentic, PubMed-connected literature search tool that applies the Systematic Literature Review (SLR) protocol to clinical and epidemiological queries. It retrieves original research, surfaces sample sizes, and produces range-based, fully traceable quantitative answers.

Patient.AI

A no-code real-world evidence tool that enables forecasters to define patient cohorts without using any code. Patient.AI identifies relevant ICD codes, builds the cohort, and delivers a full analytics dashboard covering demographics, treatment sequences, prescriber journeys, switching patterns, and market share. Claims analysis that previously required weeks of data scientist engagement is completed by the forecaster directly, in minutes.

Configurable Forecasting Model

A structured, data-connected model environment in which assumptions flow automatically into a configurable Excel-based framework. Forecasters can adjust patient funnels, segmentation approaches, event modelling, and pricing methodologies with minimal manual build effort, receiving a pre-populated model with auditable, traceable assumptions rather than judgment calls made under time pressure.

Forecasting-Ready Data

A data ecosystem consolidating claims databases (including five claims datasets), syndicated commercial data (MIDAS, Evaluate, Clarivate), published literature (Embase, PubMed), pipeline trackers (PharmaProjects), and pricing registries (NAVLIN) into a single access point. Pre-structured, curated assumptions on population, epidemiology, loss-of-exclusivity erosion curves, and pricing benchmarks flow directly into the forecasting model, eliminating manual extraction and reconciliation across fragmented systems.

Together, these components form a platform that supports Insights and Analytics teams, Business Development functions, and Medical and Real-World Evidence leaders, enabling all three stakeholder groups to make faster, more confident pipeline investment decisions.

Business Impact

90%

Reduction in Forecast Development Time

An asset that previously required three to six weeks from initial research to completed forecast now takes one to two days, changing the pace of deal evaluation in competitive BD situations.

80%

Efficiency Gains in Assumptions Development

Data-backed assumptions now flow directly from forecasting-ready data into the forecasting model, eliminating manual extraction, reconciliation, and the rework cycles that follow when unverified assumptions fail review.

200+

Indications Evaluated with Data-Driven Rigor

Replaced gut-based asset prioritization with structured, evidence-based commercial evaluation across the full portfolio, enabling consistent, comparable pipeline reviews at the VP and C-suite level.

$100K–$300K

Cost Avoidance Per Rare Disease Report

Boutique consulting firms charge $100,000 to $300,000 per rare disease landscape engagement. The platform delivers comparable intelligence in under 10 minutes, making comprehensive rare disease coverage economically viable at scale.

Client Spotlight: A leading global pharmaceutical company with a strategic rare disease focus engaged Axtria to build the Early Pipeline Decision Engine across a scope of over 200 indications. The platform has progressed from initial delivery to enterprise-wide adoption, earning strong endorsement from the Chief Medical Officer and has since been presented at the executive leadership level. The client now uses the platform as its primary tool for commercial pipeline assessment, replacing a fragmented, manually intensive process with an integrated, agentic system.

Conclusion

Axtria's Early Pipeline Decision Engine redefines what's operationally possible in early-stage commercial forecasting, compressing the development cycle from weeks to days while strengthening the discipline and defensibility of every assumption.

For rare disease pipelines, the platform closes the data gap through SLR-protocol literature search and real-world claims analytics, with automated landscape synthesis. For Business Development teams racing deal timelines, it delivers the intelligence needed to move first. Axtria's EPDE gives Insights and Analytics, Business Development, and Medical teams the ability to make faster, more confident decisions across the full pipeline, from first-look assessment to executive-ready review.

AXTRIA
INGENIOUS INSIGHTS

Axtria helps life sciences companies harness the potential of data science and software to improve patient outcomes by connecting the right therapies to the right patients at the right time. The company is a leading global provider of award-winning cloud software and data analytics to the life sciences industry. We're proud to deliver proven solutions that help pharmaceutical, medical device, and diagnostics companies complete their journey from data to insights to action, enabling them to earn superior returns on their investments. As a participant in the United Nations Global Compact, Axtria is committed to aligning strategies and operations with universal principles on human rights, labor, environment, and anti-corruption, and taking actions that advance societal goals.

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