# Stage-wise GenAI Use Cases with PM ROI Perspective

| Stage | Top GenAI Use Cases | PM ROI Perspective |
|---|---|---|
| LegacySystem | • AI input validation<br>• Auto-document legacy code<br>• Conversational debugging<br>• Predictive maintenance<br>• Semantic mapping | • Reduced support costs<br>• Improved developer productivity<br>• Decreased downtime<br>• Faster modernization |
| Legacy Publisher → Kafka | • Real-time anomaly detection<br>• Metadata enrichment<br>• Data deduplication<br>• Synthetic test data<br>• Policy-aware publishing | • Higher system reliability<br>• Faster audits & compliance<br>• Cost savings from deduplication<br>• Faster time-to-market |
| Kafka → DB | • Partition optimization<br>• Semantic query assistant<br>• Retention tuning<br>• Data drift detection<br>• Explainable alerts | • Operational cost optimization<br>• Improved developer adoption<br>• Regulatory risk reduction<br>• Faster MTTR |
| Legacy Consumer → Modern API | • API translator<br>• Auto-generated API contracts<br>• Explainable mapping<br>• Semantic error resolution<br>• Test case generation | • Accelerates API modernization<br>• Reduces dependency on SMEs<br>• Fewer failed transactions<br>• Stronger QA coverage |
| TargetPublisher → Kafka → CMDB | • Quality scoring<br>• Compression recommendations<br>• Semantic search<br>• Data provenance<br>• Workload forecasting | • Lower storage costs<br>• Improved analyst productivity<br>• Audit-ready lineage<br>• Capacity planning cost savings |
| TargetConsumer → Downstream Services | • Compliance guardrails<br>• AI-based prioritization<br>• Smart retry logic<br>• Personalized insights<br>• Audit services | • Reduced compliance penalties<br>• Higher service availability<br>• Increased revenue from personalization<br>• Trust-building with regulators |
| LegacySyncBackAPI → LegacyDB | • Explainable sync reports<br>• Root cause analysis<br>• Change impact analysis<br>• Schema harmonization<br>• Compliance summaries | • Reduced manual audit efforts<br>• Faster root cause resolution<br>• Lower integration costs<br>• Risk mitigation |