



AMBER

AI ADOPTION IN DEVELOPMENT SUPPORT SERVICES

Scaling QA
Operational Intelligence
Testing Through Enterprise AI

EXECUTIVE SUMMARY

Modern game development has outgrown traditional, linear QA and operations models. Multi-platform launches, live-service delivery, complex gameplay systems, increasingly rich telemetry, and faster release cycles require Development Support Services to scale speed, consistency, and insight without compromising quality.

Amber Development Support Services is adopting **Artificial Intelligence (AI)** as a core operational capability across testing workflows, reporting, telemetry analysis, support operations, localization, and platform infrastructure. The strategy is deliberately incremental: **AI augments** expert teams, **improves** repeatability, **accelerates** decision-making, and **creates** the foundation for intelligent testing systems.

Early production deployments have demonstrated tangible value, including **2x–3x efficiency improvements** in selected workflows such as AI-assisted test case generation, while improving consistency and reducing manual effort.



This whitepaper outlines how Amber is operationalizing AI to deliver faster, better, and more scalable Development Support Services for clients: safely, measurably, and with human expertise at the center.

THE SCALING CHALLENGE IN MODERN QA AND DEVELOPMENT SUPPORT

Development Support Services now operate in environments defined by continuous change, large-scale data, and rising quality expectations. QA teams are expected to validate more content, more platforms, more configurations, and more player experiences in less time.

1

Multi-platform and cross-device release ecosystems

2

Live-service operations with frequent updates and events

3

Complex gameplay systems, economies, progression loops, and edge cases

4

Large volumes of telemetry, crash, performance, and user behavior data

5

Fragmented tools, dashboards, and reporting workflows

6

Compressed delivery cycles and higher client expectations for quality and visibility

The central challenge is clear: traditional QA capacity scales linearly, while product complexity and operational data grow exponentially. Without a new operating model, teams face higher costs, slower feedback loops, inconsistent reporting, and delayed insight.

WHY AI ADOPTION MATTERS NOW

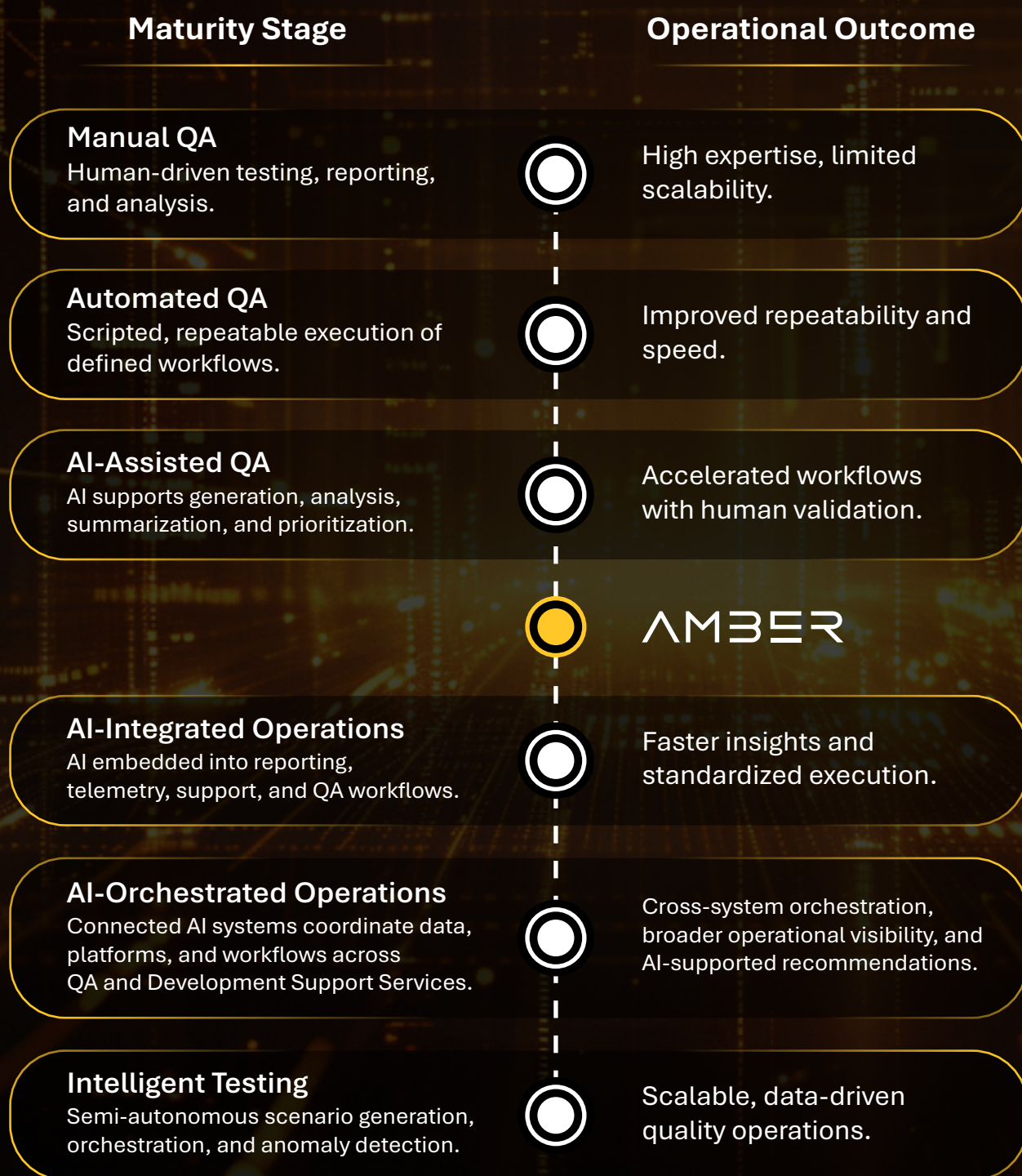
AI represents a structural evolution in how **Development Support Services** are delivered.

It enables teams to move from manual execution and fragmented analysis toward intelligent, insight-driven workflows that improve throughput and decision quality.



Amber's approach focuses on responsible augmentation, not replacement. AI is applied where it can accelerate cognitive and repetitive tasks while keeping domain experts in control of validation, prioritization, and client-facing decisions.

AI MATURITY MODEL FOR DEV SUPPORT SERVICES



Amber is currently progressing from **AI-assisted workflows** toward **AI-integrated operations**, while laying the data, infrastructure, and governance foundations required for AI-orchestrated operations and intelligent testing.

AMBER'S ENTERPRISE AI ADOPTION MODEL

Amber structures AI adoption across four levels:



CURRENT AI ADOPTION AND PROVEN IMPACT

Amber has already moved beyond experimentation and is applying AI in practical operational contexts.



Operational Deployments and Exploration Areas

- AI-assisted test case generation in production workflows
- AI-supported reporting and summarization workflows
- Customer support workflow exploration, including ticket classification and response assistance
- Localization support systems and quality checks
- Automated testing architecture exploration



Workforce Enablement

- AI enablement delivered to 100+ personnel
- Organization-wide adoption support focused on practical use cases, governance, and repeatable practices



Measured Impact

- 2x–3x efficiency improvements in selected workflows, including test case generation
- Reduced manual effort in repetitive documentation and reporting tasks
- Improved consistency, standardization, and speed of operational outputs

PRIORITY AI USE CASES

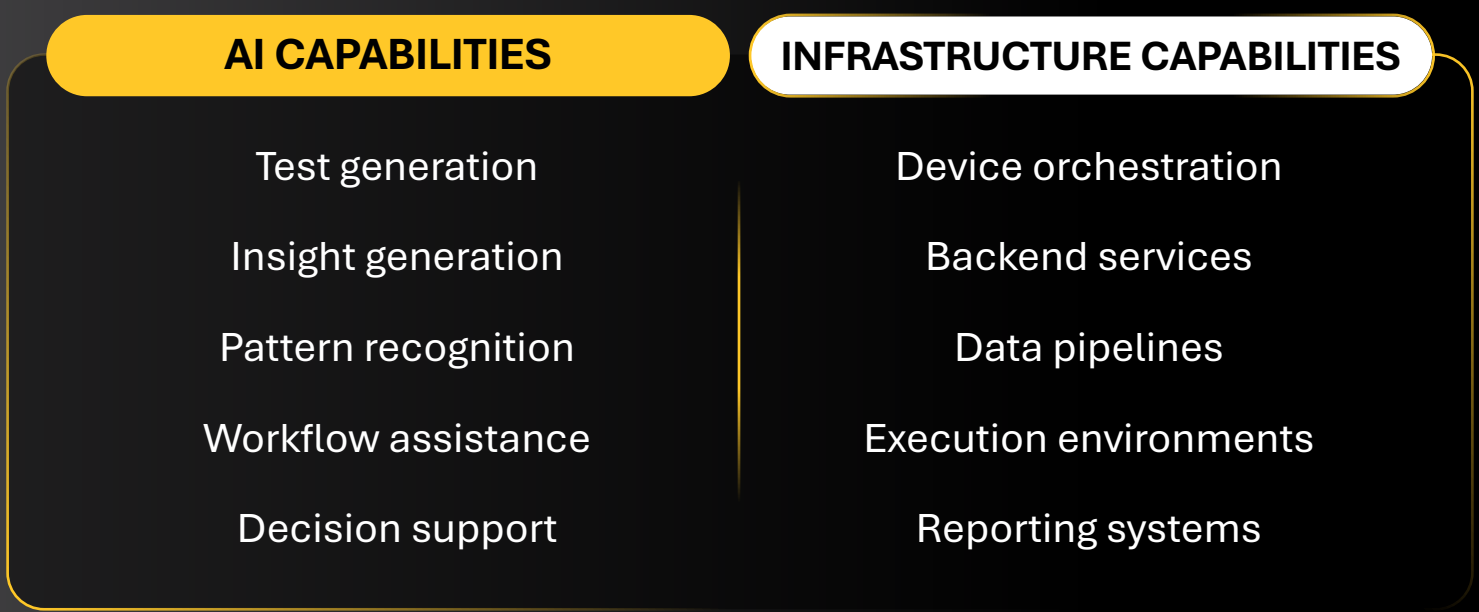
Amber has already moved beyond experimentation and is applying AI in practical operational contexts.

DOMAIN	AI USE CASES	CLIENT VALUE
QA & Testing	Test case generation; regression suite optimization; exploratory testing support; automated detection of unusual patterns in test results, telemetry, crash reports, and performance data that may indicate defects,	Higher coverage, faster preparation, and earlier identification of defects, regressions, and unexpected product behavior.
Operations	Automated reports; KPI and trend analysis; workflow optimization.	Faster visibility, clearer decisions, reduced reporting effort.
Customer Support	Ticket classification; clustering; root-cause identification; response assistance.	Faster triage and improved support consistency.
Localization	Content validation; terminology checks; automated quality support.	Improved linguistic quality and scalable review workflows.



AI + INFRASTRUCTURE: THE DUAL CAPABILITY MODEL

Sustainable AI adoption requires more than models or prompts. It depends on the integration of AI capabilities with reliable infrastructure, data pipelines, and execution environments.



By combining both layers, Amber can deliver **AI-enabled services** that are scalable, secure, repeatable, and integrated into real delivery workflows.

BUSINESS VALUE AND ROI

Operational efficiency:
Faster test creation, reduced repetitive work, and accelerated reporting cycles.

Strategic impact:
Faster time-to-market, improved player experience, and stronger data-driven decision-making.

Quality improvement:
Broader coverage, fewer manual inconsistencies, and earlier identification of risks.

Scalability:
Ability to process larger datasets and support more complex ecosystems without proportional cost growth.

RESPONSIBLE AI, RISK MANAGEMENT, AND GOVERNANCE

Amber’s AI adoption model is designed to be **trusted, controlled, and enterprise-ready**. Governance is embedded into adoption to manage risk while enabling innovation.

DATA QUALITY LIMITATIONS

Mitigation Approach:
Validated inputs, dataset review, and continuous quality monitoring.

OUTPUT RELIABILITY

Mitigation Approach:
Human-in-the-loop review, acceptance criteria, and feedback loops.



SECURITY AND IP CONCERNS

Mitigation Approach:
Secure environments, controlled access, and client-specific data handling rules.

OVER-RELIANCE ON AUTOMATION

Mitigation Approach:
Clear accountability, expert oversight, and defined escalation paths.

IMPLEMENTATION ROADMAP

PHASE 01 0-6 months

Focus

Workforce training, pilots, early workflow integration.

Expected outcome

Validated use cases and initial productivity gains.

PHASE 02 6-12 months

Focus

Expanded adoption across QA, reporting, and analytics.

Expected outcome

Broader operational impact and standardized practices.

PHASE 03 12-24 months

Focus

Platform integration, scalable automation, cross-functional orchestration.

Expected outcome

Connected AI-enabled delivery capabilities.

PHASE 04 24+ months

Focus

Intelligent testing systems and AI-driven operations.

Expected outcome

Semi-autonomous quality operations with expert oversight.

LONG-TERM VISION: INTELLIGENT TESTING

Amber's long-term vision is to build intelligent testing systems capable of understanding gameplay mechanics, generating relevant scenarios, executing tests, detecting anomalies, and producing actionable reporting for teams and clients.



This vision is supported by continued investment in **AI capabilities**, data systems, infrastructure integration, and workforce enablement. The result is a **Development Support Services** model that can scale beyond manual constraints while preserving the judgment and creativity of experienced QA professionals.

CALL TO ACTION

FOR CLIENTS



Leverage AI-enabled QA and Development Support Services to improve delivery speed, quality, transparency, and scalability.

FOR DELIVERY TEAMS



Integrate AI into repeatable workflows to reduce repetitive effort and focus expert time on higher-value analysis.

FOR LEADERSHIP



Continue investing in AI infrastructure, data systems, governance, and workforce readiness to compound long-term value.

CONCLUSION

Amber Development Support Services has established a strong foundation for enterprise **AI adoption**: proven operational expertise, measurable early impact, a clear maturity model, and a roadmap for scalable implementation.

AI is already reshaping **how QA and operations are delivered**. By combining intelligent tools with expert oversight, Amber is building a Development Support Services model that can respond to growing complexity, improve decision-making, and create lasting value for clients.



USE CASE SCENARIO 1: AI-ASSISTED TEST CASE GENERATION

CHALLENGE

Test Leads traditionally spend significant time reviewing fragmented source information—such as design documentation, feature requirements, acceptance criteria, known risks, platform specifications, and historical defects—and converting it into structured test cases.

As game features become more complex and release cycles shorten, this preparation effort grows considerably. The manual process can also produce inconsistencies in test structure, depth, terminology, and coverage across teams. The whitepaper identifies these pressures, including multi-platform releases, complex gameplay systems, frequent updates, and compressed delivery cycles.

AI-ENABLED SOLUTION

A Test Case Generation Agent receives the available project information and produces an initial set of structured test cases. Depending on data availability and access controls, its inputs may include:

Feature and design documentation

User stories and acceptance criteria

Gameplay rules and system dependencies

Platform and device requirements

Existing test suites

Historical defects and production issues

Known technical or delivery risks

USE CASE SCENARIO 1: AI-ASSISTED TEST CASE GENERATION

The agent analyzes the information, identifies testable requirements, and generates:

Positive and negative test scenarios

Boundary and edge-case coverage

Platform-specific variations

Preconditions, steps, and expected results

Risk-based priorities

Traceability between requirements and test cases

Questions or gaps requiring clarification

The Test Lead remains accountable for reviewing the output, applying project-specific judgment, correcting assumptions, and approving the final test suite. This reflects Amber's human-in-the-loop approach, in which AI accelerates cognitive and repetitive work while experts retain control over validation and prioritization.

EXAMPLE SCENARIO

A Test Lead is preparing testing for a new cross-platform progression feature. The available information is distributed across a design document, user stories, economy rules, platform requirements, and defects from a similar feature.

Without the Agent

The Test Lead must:

1. Read and reconcile all source materials.
2. Identify the testable requirements.
3. Map dependencies and risk areas.
4. Write test cases individually.
5. Add platform-specific variations.
6. Check for duplicated or missing coverage.
7. Standardize formatting and terminology.

A significant portion of the Lead's time is therefore spent creating and formatting test documentation rather than evaluating risks and improving the test strategy.



With the Agent

The Test Lead provides the approved source information to the agent. The agent:

1. Extracts testable requirements.
2. Groups them by functional area and risk.
3. Creates an initial test suite.
4. Generates relevant negative and edge cases.
5. Identifies platform-specific scenarios.
6. Highlights unclear or contradictory requirements.
7. Produces a structured draft for expert review.

The Lead then reviews, refines, and approves the proposed test cases instead of creating the entire suite from a blank page.

OPERATIONAL IMPACT

The whitepaper reports **2x–3x efficiency improvements in selected workflows, including AI-assisted test case generation.**

An illustrative effort comparison could therefore be:

ACTIVITY	TRADITIONAL APPROACH	AI ASSISTED APPROACH
Source review and requirement extraction	6 HOURS	2 HOURS
Initial test case creation	12 HOURS	3 HOURS
Coverage review and standardization	4 HOURS	2 HOURS
Expert validation and final adjustments	2 HOURS	3 HOURS
Total Test Lead effort	24 HOURS	10 HOURS
Illustrative reduction	—	14 HOURS / 58%

BUSINESS VALUE

Reduced Test Lead preparation time: Leads move from manually authoring every test case to reviewing and improving an AI-generated baseline.

Faster test readiness: Test suites can be prepared earlier, shortening the period between requirement availability and test execution.

Improved standardization: Test cases follow a consistent structure, terminology, and expected level of detail.

Broader and more consistent coverage: The agent systematically considers positive, negative, boundary, dependency, and platform-specific scenarios.

Higher-value use of expertise: Leads can spend more time on risk assessment, exploratory strategy, stakeholder alignment, and defect prevention.

Better traceability: Generated cases can be mapped to source requirements, making omissions and requirement changes easier to identify.

These benefits align with the whitepaper’s identified client value for AI-enabled QA: faster preparation, higher coverage, earlier defect discovery, and reduced repetitive effort.

OPERATIONAL IMPACT

RECOMMENDED SUCCESS MEASURES

Test Lead hours spent preparing test cases

Requirements-to-test-case traceability coverage

Time from requirement availability to test-suite readiness

Percentage of generated test cases accepted with minor or no modification

Number of missing scenarios identified during review or execution

Defect discovery by generated versus manually added scenarios

Lead satisfaction with quality and usability of generated output

Test case duplication rate

USE CASE SCENARIO 2: AI-ASSISTED REPORT GENERATION

CHALLENGE

Test Leads frequently gather reporting data from multiple sources, such as test management systems, defect trackers, execution logs, dashboards, spreadsheets, team updates, and platform-specific results.

Before a report can be delivered, the Lead must often:

Locate and export the relevant data

Reconcile differences between tools

Validate reporting periods and filters

Calculate or verify KPIs

Identify trends and risks

Write an executive summary

Standardize terminology and presentation

Check that the narrative matches the underlying data

USE CASE SCENARIO 2:

AI-ASSISTED REPORT GENERATION

This fragmented workflow consumes time and can result in inconsistent metrics, missing context, reporting errors, or reports that contain substantial data but do not clearly communicate the most important risks and required decisions. The whitepaper specifically identifies fragmented tools, dashboards, and reporting workflows as a scaling challenge.

AI-ENABLED SOLUTION

A Report Generation Agent gathers information from approved reporting sources and transforms it into a standardized report draft.

Depending on the project's systems and permissions, the agent can process:

Test execution results

Pass, fail, blocked, and not-run statuses

Defect severity, priority, age, and status

Build and platform information

Coverage and progress indicators

Historical reporting data

Team risks, blockers, and observations

Release milestones and quality targets

USE CASE SCENARIO 2: AI-ASSISTED REPORT GENERATION

The agent validates the reporting period, consolidates the available information, calculates predefined KPIs, identifies trends, and generates a structured narrative for the intended audience.

The Lead reviews the draft, confirms the interpretation, adds contextual judgment, and approves the final report. Data validation rules, acceptance criteria, and human review remain essential safeguards, consistent with the governance model described in the whitepaper.



EXAMPLE SCENARIO

A Test Lead must prepare a weekly quality report covering four platforms and several feature teams. The required information is spread across a test management tool, a defect tracker, build notes, spreadsheets, and status messages.

Without the Agent

The Test Lead must:

1. Export data from each system.
2. Apply the correct filters and reporting dates.
3. Consolidate platform and feature results.
4. Remove duplicates and reconcile discrepancies.
5. Calculate KPIs.
6. Compare results with previous reporting periods.
7. Identify material trends and risks.
8. Write the management summary.
9. Format charts, tables, and status sections.
10. Perform a final data-quality check.

Because much of the reporting window is spent gathering and formatting data, the Lead has less time to interpret the results and explain their implications.



With the Agent

The Report Generation Agent:

1. Retrieves data from approved sources.
2. Applies consistent filters and reporting definitions.
3. Consolidates results into a standard data model.
4. Flags missing, stale, or conflicting information.
5. Calculates the approved KPIs.
6. Compares current results with previous periods.
7. Identifies notable changes, trends, and outliers.
8. Produces an audience-appropriate summary.
9. Generates standardized supporting tables.
10. Provides source references and a validation checklist.

The Lead focuses on validating exceptions, adding delivery context, confirming risks, and tailoring recommendations for stakeholders.

IMPROVEMENT IN REPORT QUALITY

The agent improves report quality by introducing a repeatable process for data consolidation, validation, analysis, and presentation.

QUALITY DIMENSION	IMPROVEMENT ENABLED BY THE AGENT
COMPLETENESS	Checks whether all expected projects, platforms, builds, and reporting fields are represented
CONSISTENCY	Applies the same KPI definitions, filters, terminology, structure, and reporting periods
ACCURACY	Reduces manual copying and calculation errors while flagging conflicting or incomplete records
TRACEABILITY	Connects reported figures and observations to their source data
COMPARABILITY	Maintains a stable structure that supports week-over-week or milestone comparisons
CLARITY	Converts detailed operational data into concise findings, risks, and recommended actions
RELEVANCE	Prioritizes exceptions, trends, blockers, and decisions rather than presenting undifferentiated data
TIMELINESS	Produces the report earlier, giving stakeholders more time to respond to identified risks

ILLUSTRATIVE TIME IMPACT

ACTIVITY	TRADITIONAL APPROACH	AI ASSISTED APPROACH
Data gathering and exports	4 HOURS	1 HOUR
Data consolidation and validation	3 HOURS	1 HOUR
KPI calculation and trend analysis	2 HOURS	0.5 HOURS
Report writing and formatting	3 HOURS	1 HOUR
Lead review and contextual input	1 HOUR	1.5 HOURS
Total Test Lead effort	13 HOURS	5 HOURS
Illustrative reduction	—	8 HOURS / 62%

IMPROVEMENT IN REPORT QUALITY

The agent improves report quality by introducing a repeatable process for data consolidation, validation, analysis, and presentation.

BUSINESS VALUE

- **Reduced data-gathering effort:** Leads spend less time exporting, copying, reconciling, and formatting information.
- **Improved data quality:** Automated checks identify missing fields, inconsistent dates, duplicate records, and conflicting statuses.
- **More meaningful reporting:** Reports emphasize trends, exceptions, risks, and decisions—not just raw activity.
- **Greater stakeholder confidence:** Standard calculations, source traceability, and human validation make the report easier to trust.
- **Faster decision-making:** Earlier availability of quality insights gives delivery teams more time to address emerging issues.
- **Scalable reporting:** The same framework can support additional platforms, features, or data volumes without a proportional increase in Lead effort.
- **More time for leadership:** Test Leads can focus on interpreting results, recommending actions, and communicating risk.

RECOMMENDED SUCCESS MEASURES

- Test Lead hours spent gathering and preparing reporting data
- Total time from reporting cut-off to report publication
- Percentage of report fields populated automatically
- Number of missing or conflicting data points detected
- Number of post-publication corrections
- Consistency of KPI definitions across projects
- Stakeholder rating for report clarity and usefulness
- Percentage of reported risks linked to supporting data
- Time spent on analysis versus data collection
- Percentage of reports delivered on schedule

COMBINED OUTCOME



Together, the two agents shift the Test Lead's role from **manual content creation and data assembly** toward **expert validation, risk evaluation, decision support, and quality leadership**. This supports the whitepaper's broader AI adoption principle: AI augments experienced teams, improves repeatability, and accelerates workflows while human experts retain accountability for quality and client-facing decisions.



AMBER

AMBER is an international, preferred game development partner specializing in a diverse range of platforms and genres.

We are evolving the art and science of play by operating on a scaled-up, vertically integrated organizational model to achieve mastery in the full set of game development specializations.

Our global network of multidisciplinary studios functions like an integrated hub, offering a full range of turn-key product development solutions, including concept-to-delivery game production, live operations, co-development, art production, and support services such as QA or localization.

We have deep expertise in product development, cross-platform deployment, parallel launch strategies, user experience optimization, free-to-play monetization systems, data science, live operations, and more.

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