

# expoQA<sup>®</sup>26

MADRID 26th, 27th & 28th May

**The Rise of Agentic  
Quality Engineering:  
Transforming Your Test  
Automation**

[expoqa.eu](http://expoqa.eu)

# The Automation Paradox

Why strong frameworks are no longer enough

Built to scale quality. Struggling to keep pace.

## The Expectation

## The Reality

More Automation

Faster Execution

Higher Maintenance

Robust Frameworks

Scalable Coverage

Operational Complexity

Enterprise Scalability

Consistent Quality at Scale

Slower Adaptability





# GenAI as an Automation Accelerator

The leap from scripted execution to contextual understanding

01

## Understand Intent

Generate testing artifacts from requirements and functional context



02

## Runtime Adaptability

Detect and respond to UI, API, and workflow evolution



03

## Scale Quality Operations

Orchestrate reusable, governed, and scalable automation systems



**ACCELERATED  
QUALITY  
VELOCITY**

Three stages. One engine. Exponential impact.

# Evolving from Frameworks to Intelligent Platforms

When automation becomes a system



## Framework-Driven Automation

Execution-focused  
Script- and framework-dependent  
Limited contextual awareness  
Reactive maintenance model

### Typical Characteristics

- Static locators
- Hardcoded flows
- Rigid execution patterns
- Manual maintenance cycles



## Intelligent Quality Platforms

Connected quality ecosystems  
Context-aware orchestration  
Adaptive execution flows  
Insight-driven decision support

### Platform Capabilities

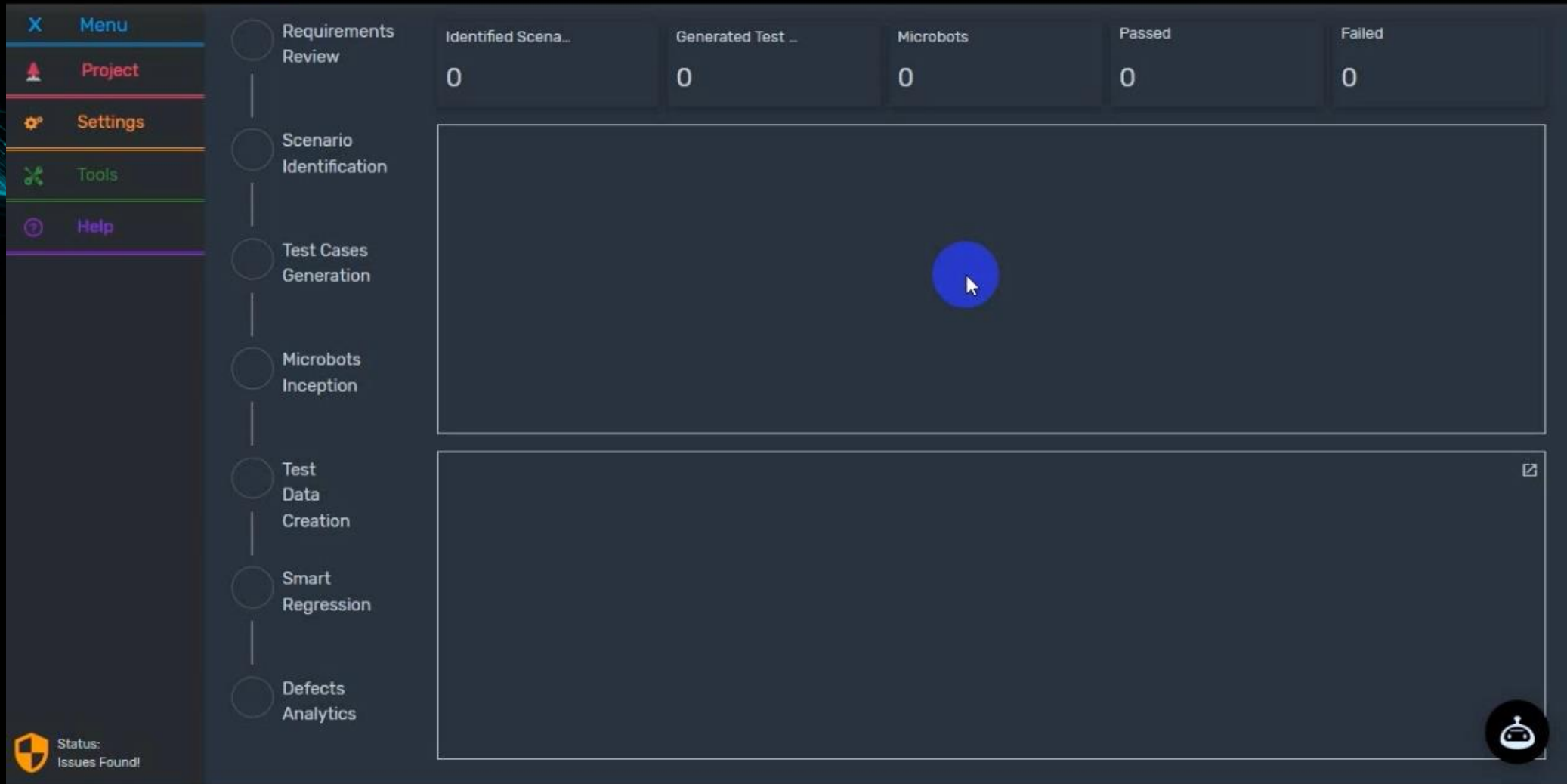
- Semantic change detection
- Shared test execution context
- Integration across tools
- Continuous quality signals



# Video Demo: FRIDA ITA Intelligent Test Automation

FRIDA ITA (Version: v2.0.2) WEB

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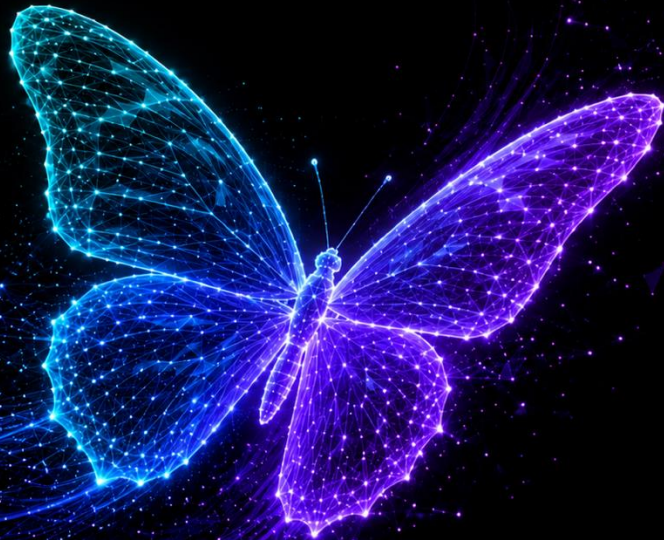


The screenshot displays the FRIDA ITA web interface. On the left is a sidebar menu with the following items: Menu, Project, Settings, Tools, and Help. The main dashboard features a table with the following columns: Identified Scena..., Generated Test ..., Microbots, Passed, and Failed. All values in the table are 0. Below the table are two large empty panels. The top panel contains a blue circle with a mouse cursor. The bottom panel is empty. At the bottom left of the dashboard, there is a status indicator: Status: Issues Found! At the bottom right, there is a circular icon containing a robot head.

Identified Scena...	Generated Test ...	Microbots	Passed	Failed
0	0	0	0	0

# Agentic Quality Engineering

When goal-driven quality agents reason, adapt, and orchestrate



## Goal-Driven Quality Agents

Decompose objectives into coordinated testing actions

## Specialized Agent Roles

**Planner Agent • QA Engineer • Automation Engineer • Executor • Reporter**  
Agents Design, Setup, Deployment & Operation

## Autonomous Orchestration

Coordinate tools, environments, and workflows

## Human-Governed Autonomy

Escalate risk, exceptions, and release-critical insights for human validation



From automation that executes to **agents that coordinate**

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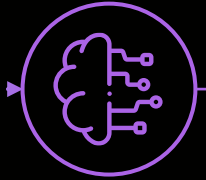
# Case Study: Applied Agentic QE in Enterprise Validation



## Intent • Coordination • Governance



**Validation Agents**  
Specialized Agents coordinate API, UI, and transaction validation workflows across the payment ecosystem



**Semantic Impact Analysis Agents**  
Agents interpret evolving requirements, trace dependencies, and adapt validation assets based on contextual impact analysis




**Human-Governed Multi-Agent Orchestration**  
Supervisor agents coordinate execution flows while humans govern risk, escalation paths, and release-critical decisions.

### Enterprise Challenge



- Complex payment transaction ecosystems
- API + UI transaction validation across channels
- Evolving standards and regulatory requirements
- High manual traceability and impact analysis effort
- Need to scale Quality Engineering operations

### Operational Outcomes

 **37%**

reduction in overall testing lifecycle effort



**Hours to Seconds**

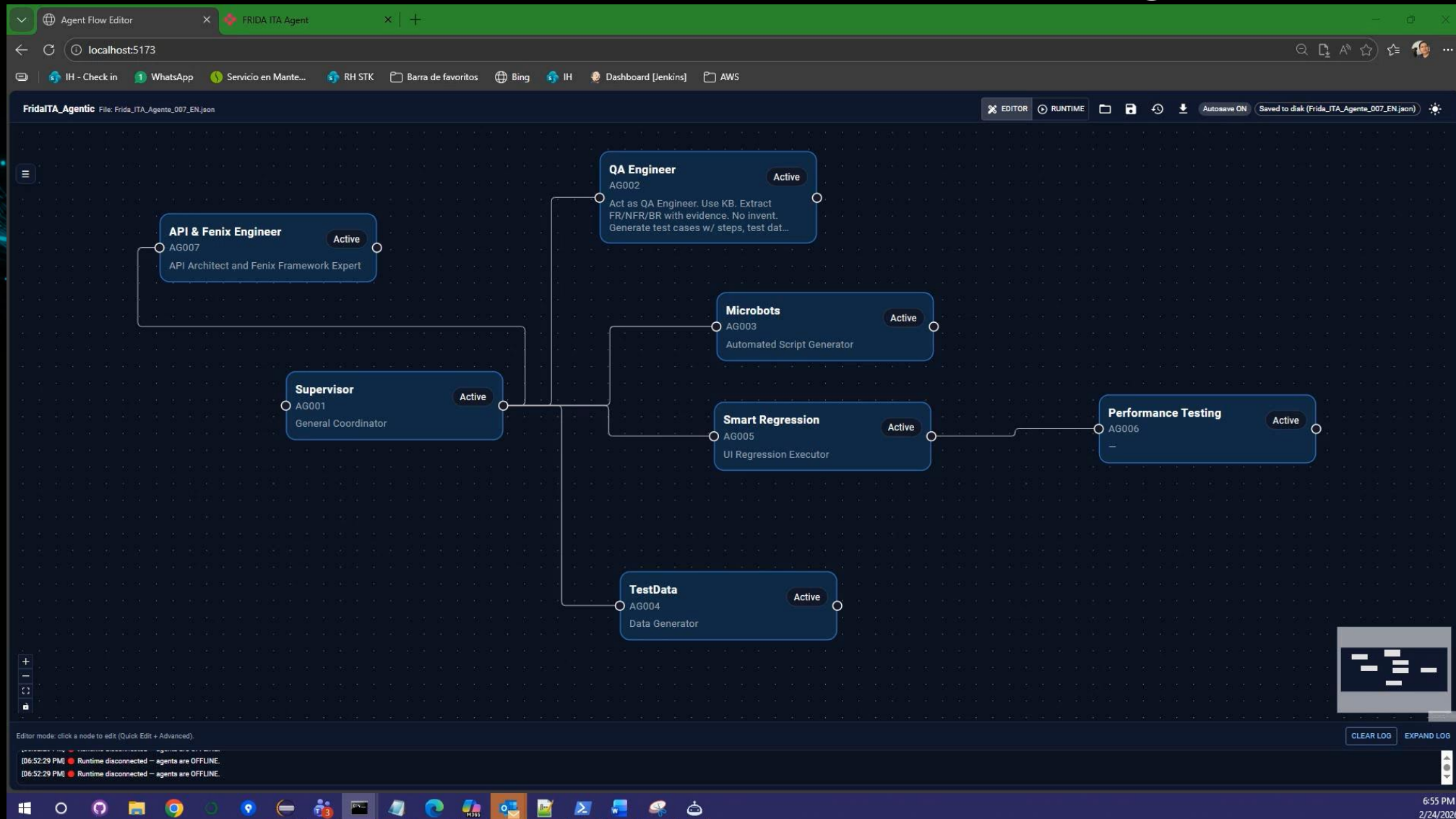
test design activities accelerated dramatically



**100%**

automation coverage across selected validation flows

# Video Demo: FRIDA ITA Agentic Java Code Creation & API Testing



# Starting Automation from Zero with GenAI

Accelerating the "First Day" journey

## INPUTS



**Requirements**  
User stories & specs



**User Flows**  
Journey maps  
& process flows



**Acceptance Criteria**  
Business rules  
& validations

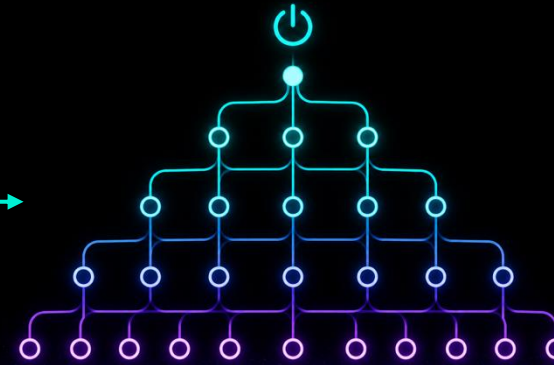


**Test Data**  
Data sets  
& parameters



**Existing Assets**  
APIs, components,  
reusable libraries

### GENAI BOOTSTRAP ENGINE



### INITIAL AUTOMATION FOUNDATION

Human-validated & ready to evolve

## GENAI ACCELERATES THE BOOTSTRAP



**NLP-Driven Generation**  
Understand requirements and flows to create test scenarios, steps, and validations



**Automatic Bootstrap**  
Generate reusable test structures, locators, and page models



**Context-Aware Initialization**  
Leverage domain context to configure data, environments, and execution settings



**Reduced Initial Expertise Dependency**  
Enable teams to start with best-practice patterns and built-in recommendations



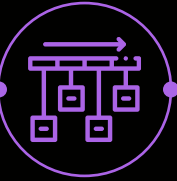
# AI Tools Across the QE Process

Accelerating the "First Day" journey

## START UP



## PLANNING



## ANALYSIS & DESIGN



## IMPLEMENTATION



## EXECUTION & REPORTING



## CLOSURE



- |  |  |   |  |   |   |
|--|--|---|--|---|---|
| <ul style="list-style-type: none"> <li>• Due Dilligence </li> <li>• Bench Marking </li> <li>• Supporting Documentation </li> </ul> | <ul style="list-style-type: none"> <li>• Test Estimation </li> <li>• Product Risk </li> <li>• Test Strategy </li> <li>• Test Goals </li> <li>• Test Approach </li> </ul> | <ul style="list-style-type: none"> <li>• ROI Analysis </li> <li>• User Stories Analysis </li> <li>• Test Matrix Design </li> <li>• Test Case Design </li> <li>• Test Data Design </li> <li>• Non-Functional Tests Design </li> <li>• Test Environments Design </li> <li>• Testing Tools Definition</li> </ul> | <ul style="list-style-type: none"> <li>• Automated Testing Architecture </li> <li>• Test Automation Framework </li> <li>• Test Case Creation </li> <li>• Test Script Creation </li> <li>• Non-Functional Test Scripts Creation</li> <li>• Test Environments Implementation </li> </ul> | <ul style="list-style-type: none"> <li>• Test Case Execution </li> <li>• Test Script Execution </li> <li>• Automated Testing Results Analysis </li> <li>• Test Reports Creation </li> <li>• Defect Reports</li> <li>• Metrics Reports </li> </ul> | <ul style="list-style-type: none"> <li>• Test Acceptance </li> <li>• Testware Submittal </li> <li>• Retrospective</li> <li>• Formal Closure </li> </ul> |
|--|--|---|--|---|---|

Knowledge Management

Defect Management

Project Management

Quality Assurance

Risk Management

Project Communication

# Case Study: Test automation with GenAI from TC in natural language



## Our Goal

Speed up test automation creation for a complex application with minimal manual effort



Test cases in natural language from XRay



AI agents interpret and orchestrate



Automated scripts generated in our framework



Ready-to-run with minimal effort

## How Our AI Agents Work Together



### 1. Generate Gherkin Scenarios

Agents extract test cases in natural language from Xray and transform into structured Gherkin scenarios.



### 2. Generate step definitions

Agents implement the step definitions from Gherkin scenarios.



### 3. Extract Locators

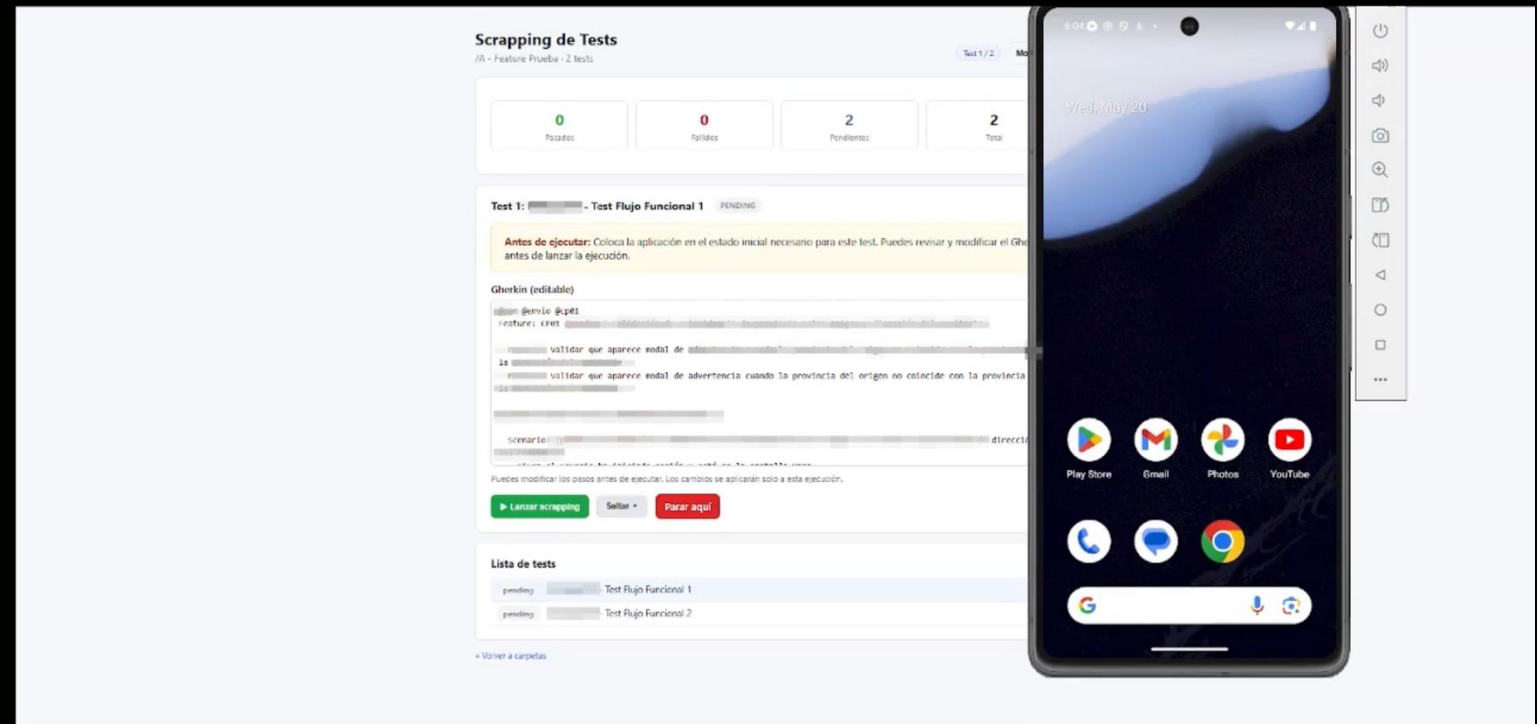
Agents perform intelligent scraping to identify all required locators.



### 4. Generate Automated Scripts

Agents create robust automated scripts based on our framework.

Developed with a proprietary [VS Code plug-in](#)



# Case Study: GitHub Copilot Custom Agents for Test Automation Across Technologies

## WHAT THE AGENTS GENERATE



**New Scenarios**  
from user stories or test cases

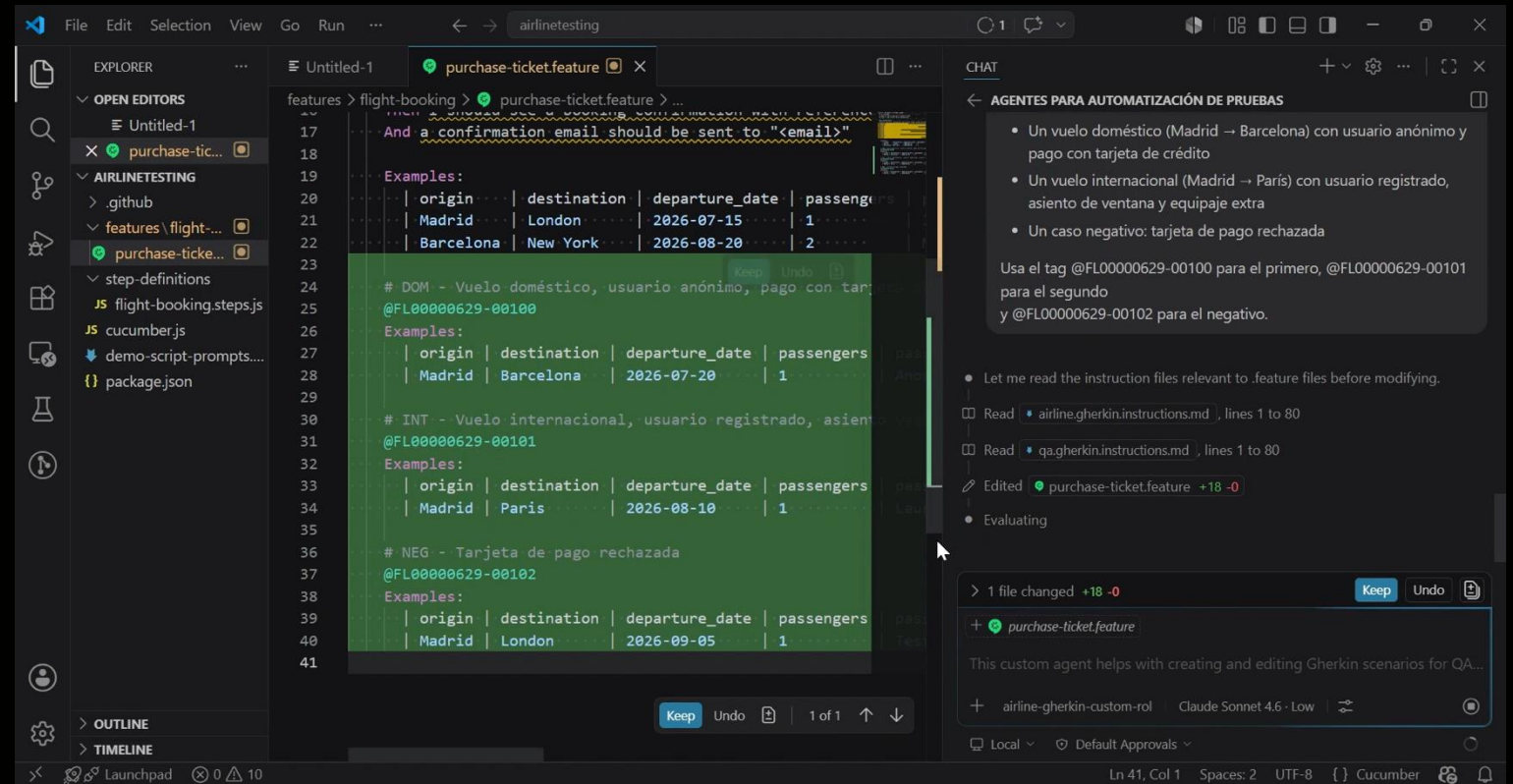


**Test step definitions**  
consistent and reusable



**Test automation in different technologies**  
Playwright, Selenium and Karate

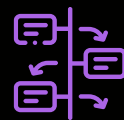
BUILT ON



## ... BUT THE BEST PART



**EASE THE LEARNING CURVE**  
Agents explain, guide and suggest as you build.



**SELF-TRAINING WITH EXAMPLES**  
Agents provide patterns, examples and best practices as you go.



**HUMAN-IN-THE-LOOP BY DESIGN**  
Agents generate, humans review, quality is never compromised

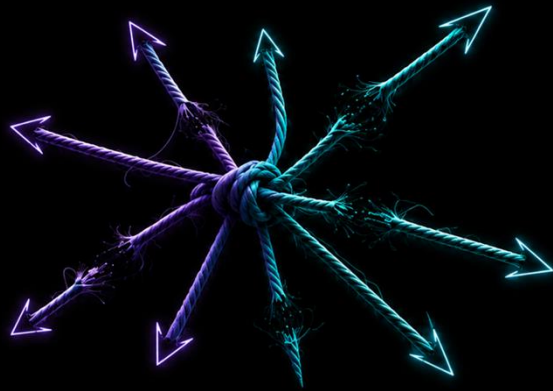


**AGENTS NEVER COMMIT**  
Full control stays with your team

# Acceleration Without Direction

GenAI scales both quality and chaos

**Speed without strategy**  
creates  
**operational entropy:**



More automation.  
More chaos.  
Undesired outcomes.

## CAUSE



**Conflicting automation priorities**  
No shared direction or risk alignment



**Unstructured coverage expansion**  
More tests without purpose or context



**Autonomous execution without governance**  
Teams optimize for their own context



**Test metrics without risk context**  
Activity over business value

## OPERATIONAL IMPACT



**Fragmented execution pipelines**  
Silos, duplication and rework



**Redundant and low-value tests**  
Noise increases, signal decreases



**Unscalable maintenance overhead**  
Complexity compounds, velocity drops



**False confidence in release quality**  
Undetected risk, surprises at release

## GOVERNANCE PRINCIPLE



**Shared risk-based orchestration**  
Align automation to business risk



**Coverage strategy aligned to business criticality**  
Focus on meaningful, risk-driven coverage



**Centralized quality governance model**  
Standards, reuse, and architecture guide the ecosystem



**Outcome-driven quality signals**  
Measure what matters: risk reduction and value delivered



# The Non-Negotiable: Human Accountability

Quality remains a discipline of judgment and ownership

## WHERE HUMAN OVERSIGHT REMAINS ESSENTIAL:



**Define quality strategy  
and business risk priorities**

Align quality objectives with business outcomes and risk appetite.



**Validate release-critical  
decisions and trade-offs**

Apply judgment to context, nuance, and the consequences of change.



**Govern autonomous execution  
with clear guardrails**

Monitor outcomes and retain ownership of results.



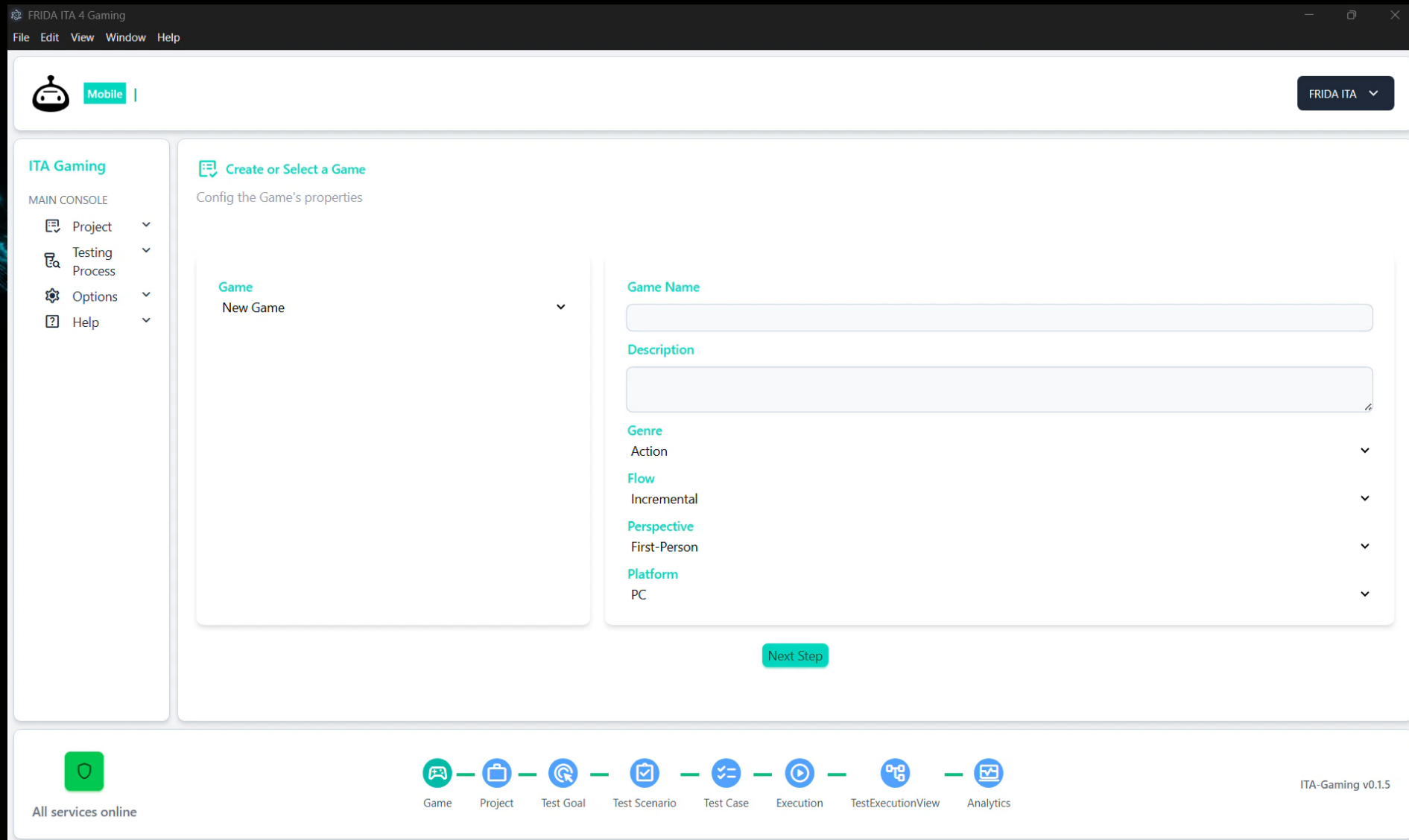
**Escalate ambiguity, ethical  
concerns, and uncertainty**

Identify what AI cannot resolve and escalate when human judgment is required.

AI can accelerate quality. **Humans remain ultimately accountable** for it.



# Bonus Video Demo: FRIDA PlayTesting



The screenshot shows the FRIDA ITA 4 Gaming application interface. At the top, there is a menu bar with 'File', 'Edit', 'View', 'Window', and 'Help'. Below the menu bar, there is a header area with a 'Mobile' indicator and a 'FRIDA ITA' dropdown menu. The main content area is divided into two sections. On the left, there is a sidebar titled 'ITA Gaming' with a 'MAIN CONSOLE' section containing 'Project', 'Testing Process', 'Options', and 'Help'. The main area is titled 'Create or Select a Game' and contains a 'Game' dropdown menu with 'New Game' selected. To the right of the dropdown, there are form fields for 'Game Name', 'Description', 'Genre' (Action), 'Flow' (Incremental), 'Perspective' (First-Person), and 'Platform' (PC). A 'Next Step' button is located at the bottom of the form. At the bottom of the application, there is a status bar with 'All services online' on the left, a series of icons for 'Game', 'Project', 'Test Goal', 'Test Scenario', 'Test Case', 'Execution', 'TestExecutionView', and 'Analytics' in the center, and 'ITA-Gaming v0.1.5' on the right.

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Thank you for attending

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