Protecting the Digital Thread

AI-Driven Testing Across PLM, ERP, MES and Beyond



Sathish Kumar Sathiya

CTO - Altegra



ALTEGRA

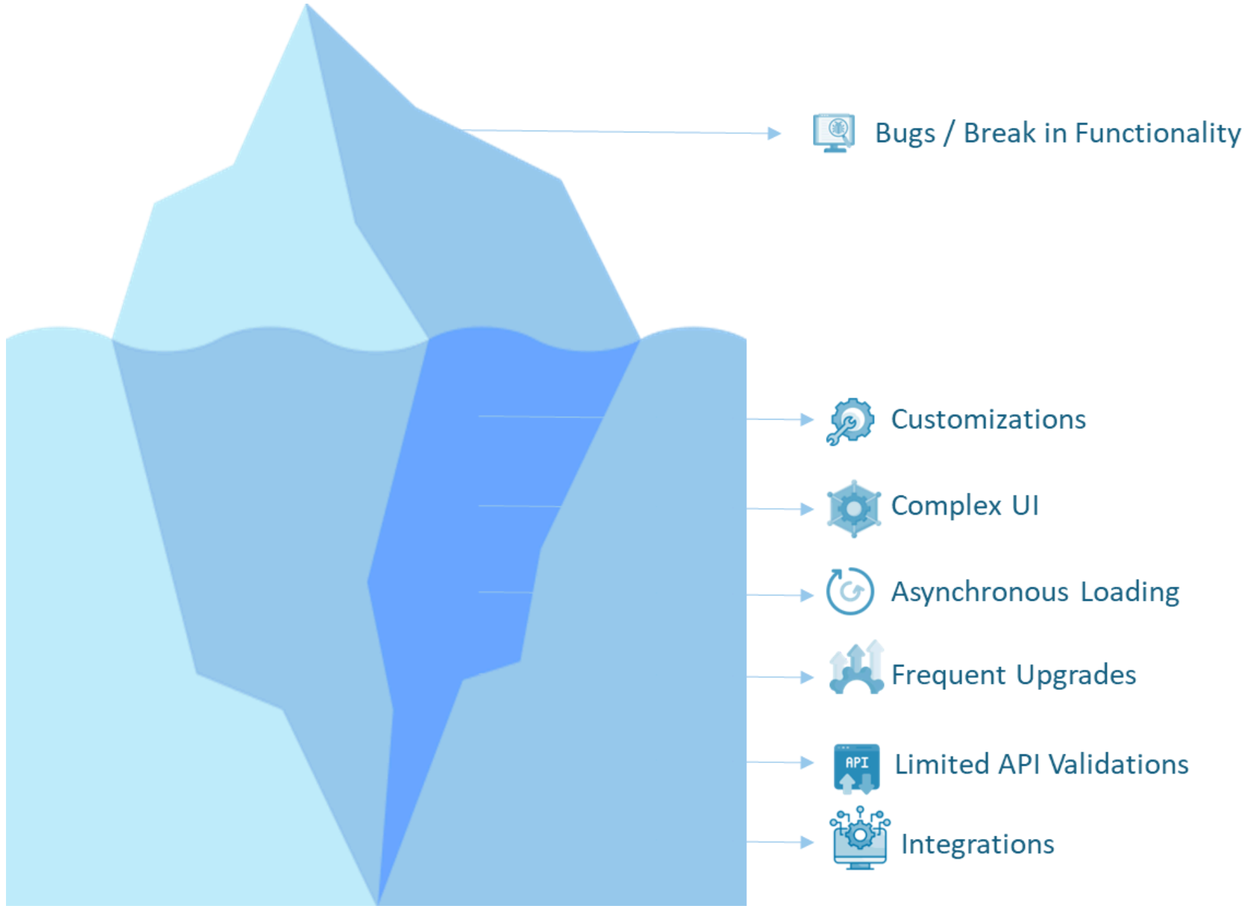
BUSINESS PROBLEM

⚠ Digital Thread Quality Challenges

What breaks the digital thread isn't always the visible bugs in systems, but the **hidden complexity between connected systems.**

☠ The Impact

Changes in one system can create failures across the connected landscape.



ALTEGRA

COST OF DEFECTS

The **same defect can cost dramatically more** to fix as it moves through the product lifecycle.



100 X. Production Phase
Recalls, Business downtime & Stop in Production

35 X. Testing Phase
Full regression cycles needed

15 X. Build Phase
Code must be rewritten & retested

5 X. Design Phase
Rework requires specification changes

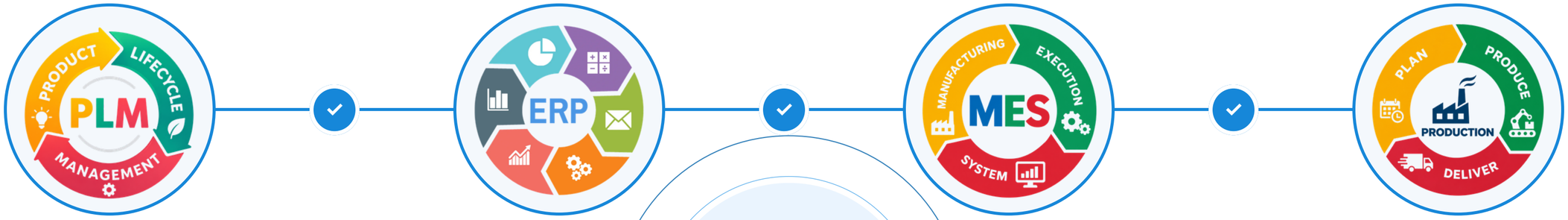
1 X. Requirements
Catching defects here is near-zero cost

ALTEGRA

THE TESTING GAP

Manual Testing Can’t Keep Up

CONNECTED DIGITAL THREAD



TRADITIONAL TESTING

More Connections = More Regression Paths



Manual Checks



Siloed Teams



Limited Regression



Slow Feedback

ALTEGRA

HOW TEST AUTOMATIONS HELP?

Test automations **protects continuity, quality and confidence** across connected digital systems

Faster Change Validation

Improve Confidence

Better Data Accuracy



Faster Feedback

Safer Upgrades

Scalable Regression

ALTEGRA

AI TESTING STRENGTHENS DIGITAL THREAD

AI-powered testings validates data, processes and integrations across connected enterprise systems.



Natural Language Test Creation

Create end-to-end business scenarios in plain English, allowing PLM and manufacturing experts to contribute without coding.



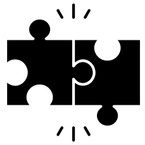
Cross-System Validation

Validate complete flows across PLM → ERP → MES → downstream systems, not just individual applications.



Intelligent Change Adaption

AI recognizes UI and process changes, helping tests survive system upgrades and evolving business processes.



Self-Healing Digital Thread Tests

Tests adapt to UI changes automatically — dramatically reducing maintenance overhead



AI-Driven Risk Discovery

AI helps identify unusual data combinations, broken handoffs and edge cases that could disrupt the digital thread.

> *A digital thread is only valuable when every connections and data can be trusted.*

WHY TESTSIGMA FOR DIGITAL THREAD VALIDATION?

Continuous Regression
Automatically test every change, release and upgrade.

End-to-End System Coverage
Validate PLM, ERP, Planning, APIs and handoffs in one platform.

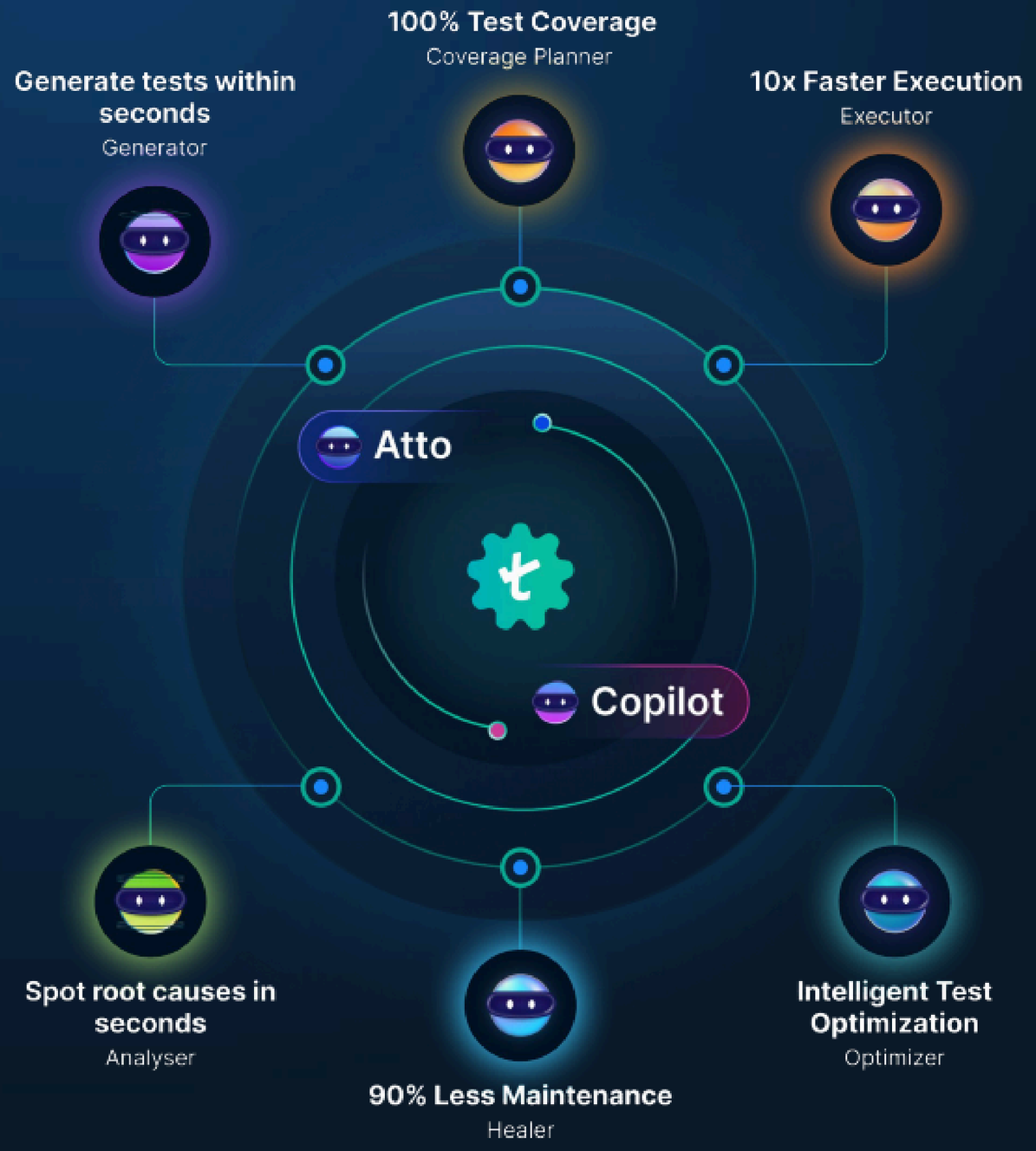
Traceability Across the Flow
Connect requirements, processes and tests end to end.

Natural Language Testing
Write Testing scenarios in plain English.

testsigma

Secure Enterprise Deployment
Run in cloud or on-premise for enterprise-scale environments.

Reimagine your entire testing lifecycle with Agentic AI



ALTEGRA

#1 Unified Agentic Test Autom

testsigma.com

Finish update

testsigma

Products Solutions Resources AI agents Docs Pricing

Login Get a Demo

AGENTIC TEST AUTOMATION PLATFORM FOR QA TEAMS

From requirements to coverage in minutes with AI.

Testsigma's AI agents create your automated tests, for web, mobile, API, and Salesforce. They run and self-heal as your app evolves, telling you what's covered and how confidently you can release.

Get a Demo

TRUSTED BY ENGINEERING AND QA TEAMS WORLDWIDE

Capterra

Carrier

Testsigma - IMB Bank

NOKIA

ZEISS

DHL

AUTOMATION YOU CAN TRUST

Test automation that

