

expo QA 24

MADRID
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29th, 30th
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expoqa.com

Your track talk speakers



Breixo Pastoriza
Accessibility & QA Lead

bpastoriza@hiberus.com



Raul Gérez López
Enterprise Efficiency Director

rgerez@hiberus.com



The impact of Generative Artificial Intelligence (AI) on digital accessibility testing using automation tools.

29th May 2024



+3,000 Professionals

+185M Revenue

+25% Annual growth the last 3 years

+45 Technology related areas

Agenda



Context about digital accessibility, QA testing & AI Gen

- Myths about digital accessibility
- The growing importance of digital accessibility
- Current state of the art in Generative AI and its application in the field of testing



Current Status

Automated accessibility testing

- Benefits and limits of running automated tools
- How to use these tools properly in accessibility testing.



Generative AI and the future of accessibility testing

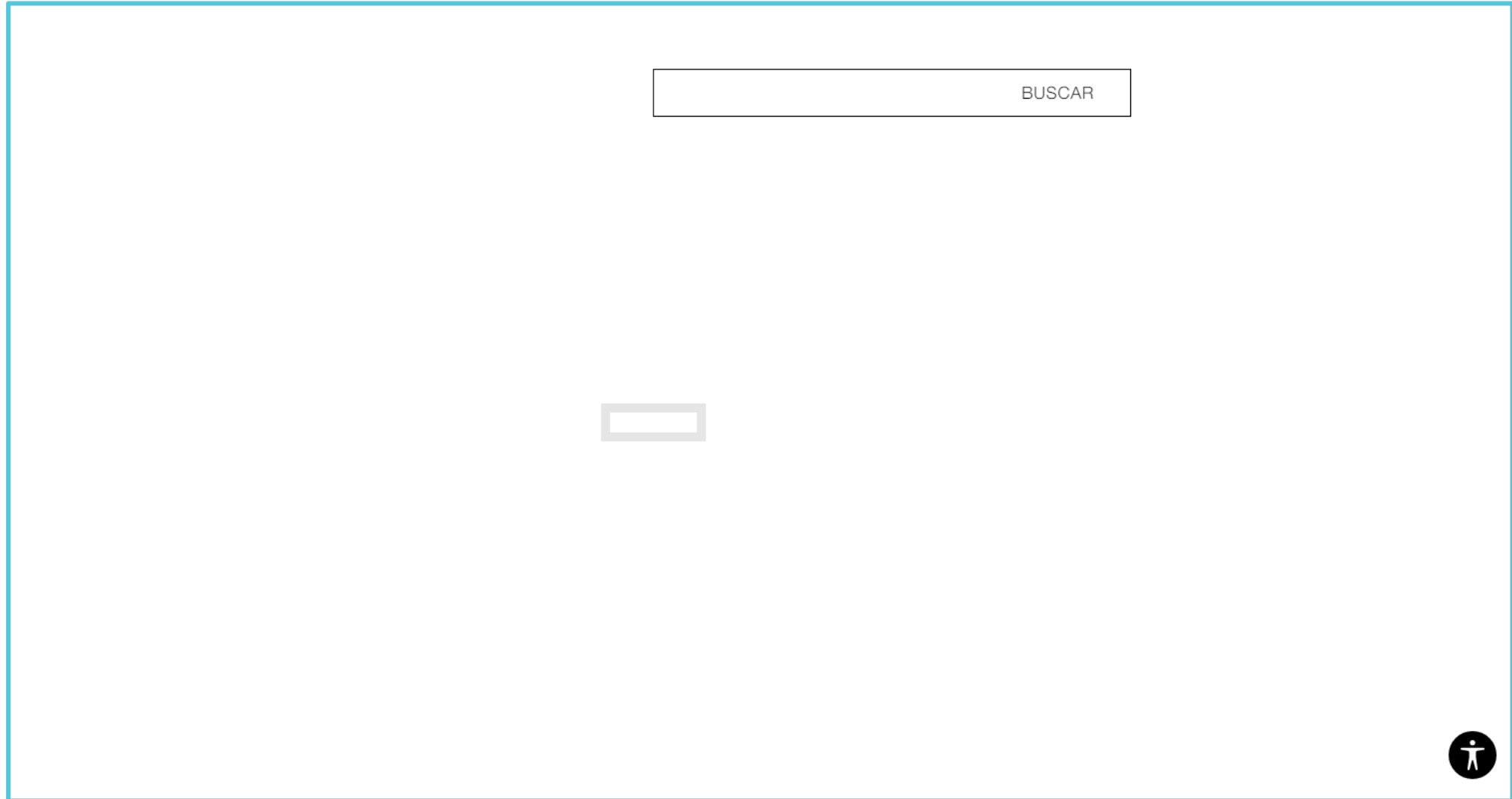
- Orientation to the practical application of technology and innovation
- Broad expertise and commitment
- Technological radar and strategic focus

The impact of Generative AI on digital accessibility testing using automation tools.

Context



What is digital accessibility?



Digital Accessibility

Digital accessibility issues
are not always visible



Absence of contrast in texts

Absence of contrast in components

Auto-rotating carousel that can't be stopped

Overlapping components

Inoperable links for keyboard and screen reader users

Visual content disappears when navigating with keyboard

Keyboard visual focus indicator with no contrast

Components such as buttons not accessible

Page with no header structure

Page with no landmark regions

Erratic navigation with no logical sequence

Hidden elements in the tab order

What is digital accessibility?

Design and development of web pages, applications or any other technology so that people with disabilities can access them and use them to their fullest extent. It means technology that can be used by everyone.

“Accessibility is one of our most valuable product design tools.”



Elise Roy, Head of UX and Inclusion at Google



Myths about digital accessibility

- ✔ Only benefits people with disabilities.
- ✔ Unattractive designs.
- ✔ Implemented on an ad hoc basis.
- ✔ High cost.

The growing importance of digital accessibility

Accessibility is a requirement in today's marketplace

All banking and financial services must be accessible (Ley 11/2023, Directiva (UE) 2019/882)

All passenger transport services must be accessible (Ley 11/2023, Directiva (UE) 2019/882)

All public entities and companies over 50 employees must hire people with disabilities (art. 42 Real Decreto 1/2013, de 29 de noviembre)

Investors and regulators demand digital reporting to be accessible (SEC's DEIA Plan, Real Decreto 1112/2018...)

Public entities are required to comply with accessibility when procuring ICT products and services (Section 508, EN 301 549...)

State of the art with Generative AI and its application in the field of testing



**Impact in
analysis and
design**



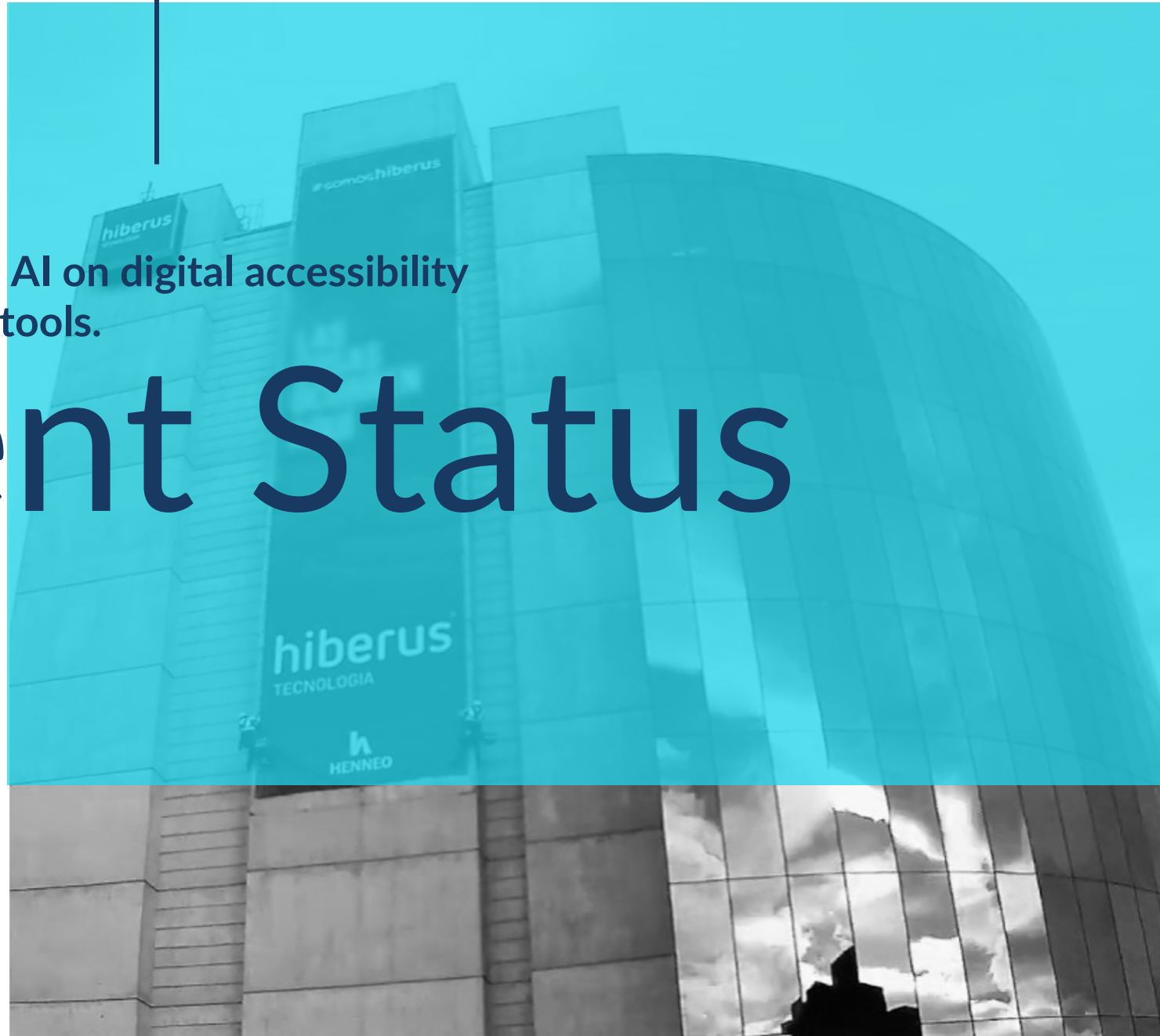
**Impact in
execution and
operation**



**Impact in
change
management**

The impact of Generative AI on digital accessibility testing using automation tools.

Current Status



Automated accessibility testing

Methods to conduct digital accessibility testing

Automated testing

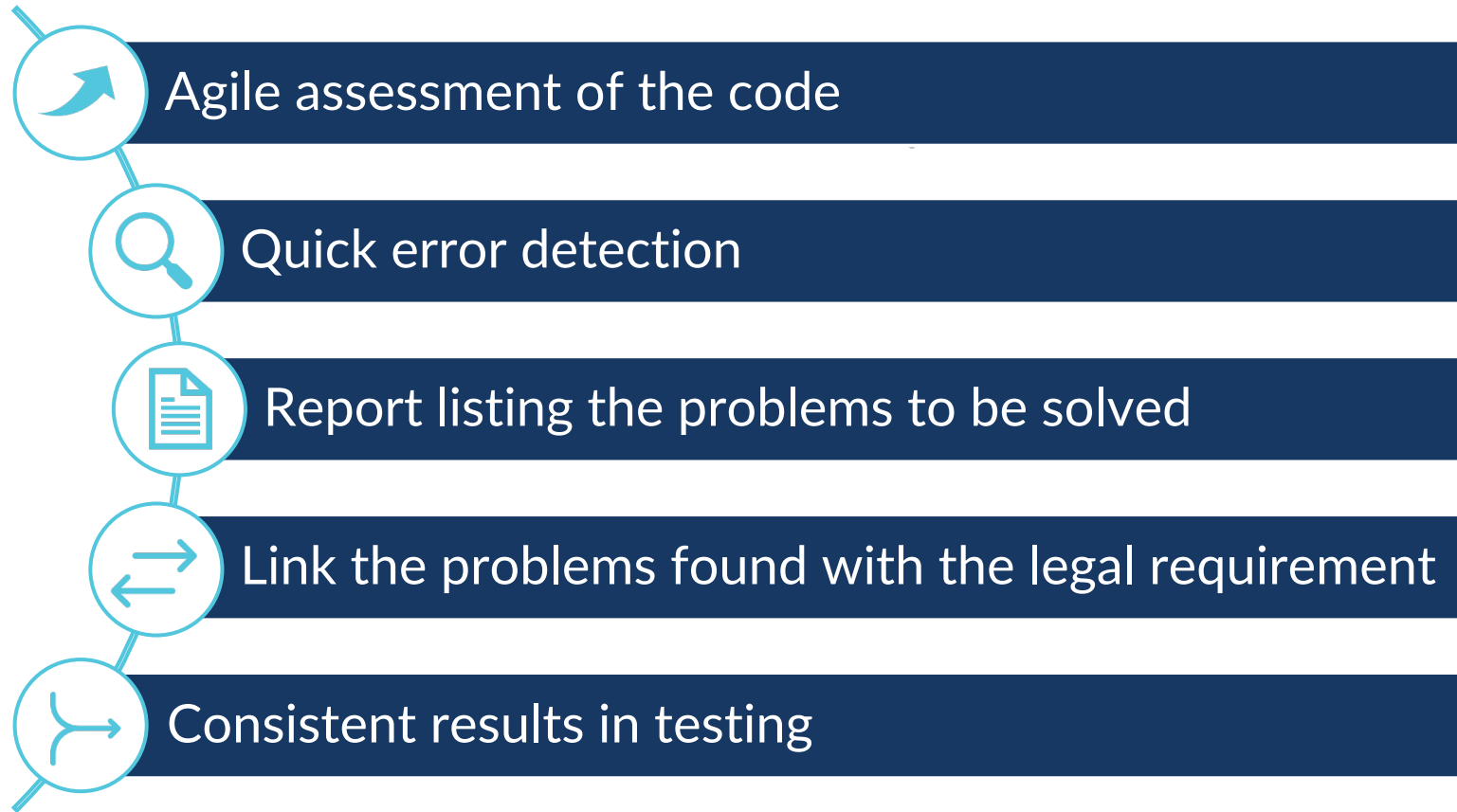
Performed with tools that crawl and check effectively the underlying code

Manual testing

Necessary to validate the automated tests and cover all accessibility issues

Automated accessibility testing

Benefits of automated accessibility testing



Automated accessibility testing

Limits of automated accessibility testing



No detection of quality and accuracy



Possible false positives



Errors in custom widgets are hard to detect



Not all criteria is covered



Cannot assess logical focus order

Automated accessibility testing

Know your tools: How we use automated testing tools in hiberus.



 **Know what tools are available in the market**, their features, capabilities and limitations.



Select the tools that **better suit** the test cases you want to execute.



Always conduct the **automated testing** before manual testing.



Different SC may require **specific tools**: 1.4.12 Text Spacing, 1.4.11 Non-text Contrast...



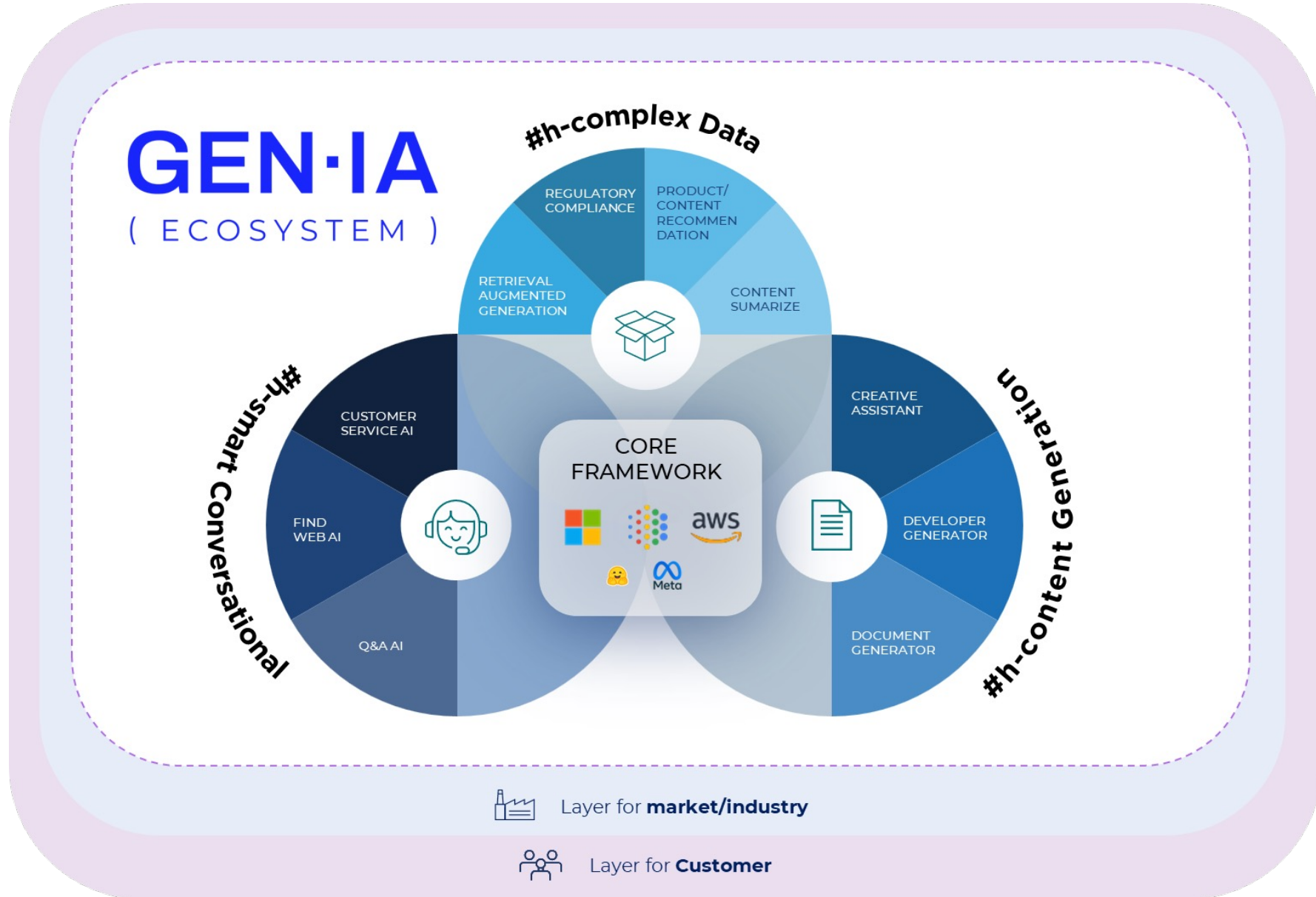
Validate the automated tests run to discard false positives.

Accessibility overlays to obtain accessibility

Accessibility overlays are NOT an alternative to testing.

- ➔ It's not possible to comply with accessibility Civil and Procurement laws if there are no accessibility professionals in the testing phase.
- ➔ Accessibility overlays are not a real option to achieve accessibility compliance.
- ➔ Lawsuits happen for companies that use overlays.
- ➔ There are no magical solutions for accessibility. Avoid accessibility Overlays.

Generative AI



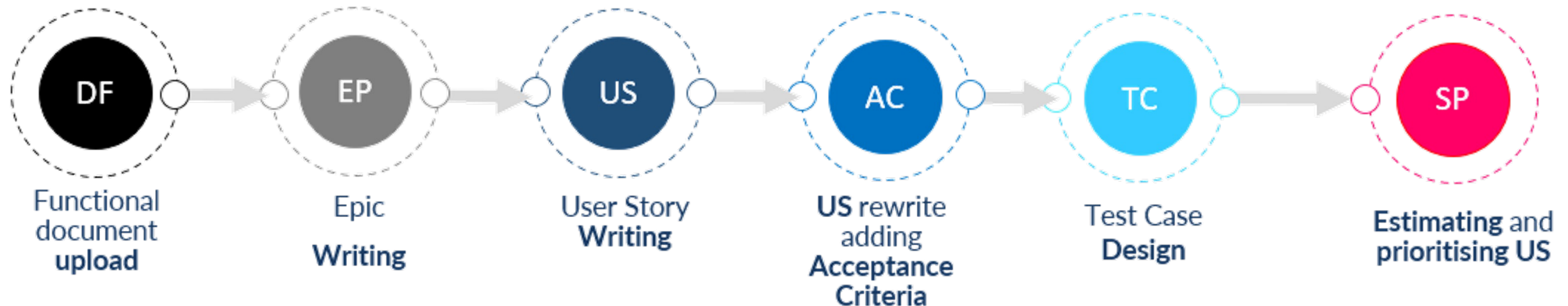
Generative AI

We are **changing the way** software is tested...

- ✓ Overview of the impact of generative AI in multidisciplinary teams. Real experiences with impact on production efficiency.
- ✓ Driving the use of generative AI in software quality engineering with our Gen QAI solution.
- ✓ Support in the adoption of corporate assistants: Github Copilot, Azure Open AI Codex, Google Codey, Amazon CodeWhisperer.

- ↓ Reduction of defects detected in production
- ↑ Speed in time to market
- ↑ Increased efficiency

Generative AI in Quality Assurance




The impact of Generative AI on digital accessibility testing using automation tools.

hiberus AI and the future of accessibility testing



Using AI to track and identify accessibility errors

AI can play a major role in accessibility testing

- 
- Optimizing automated testing
 - Identifying **patterns and features** that indicate the presence of accessibility error
 - Greater **accuracy and precision** due to increased data availability and algorithm improvements
 - Simulating** the interaction of screen readers and other assistive technologies
 - Predicting** accessibility errors based on historical data
 - Helping to **identify errors**
 - Recognizing errors and implementing the **most effective accessibility solutions**

Create consistent test cases with hiberus integrated tool with generative AI

hiberus AI: Simplify and streamline accessibility testing in your projects

Integration with major agile project management platforms to:

1

Create clear, concise, and comprehensive **accessibility test cases** quickly and easily.

2

Develop test cases aligned with established **accessibility requirements** and automated testing tools.

3

Facilitate **test execution** and result validation.

4

Accessibility testing **available to all testers**.

Execute your accessibility tests with hiberus automated accessibility tool

hiberus automated testing **powered by AI** and designed for professionals

- ✓ Uses Machine Learning (ML) to identify and predict potential accessibility issues.
- ✓ Reviews entire screens in seconds (both on web and mobile).
- ✓ Minimizes false positives.
- ✓ Identifies components with accessibility errors on the screen.
- ✓ Generates reports with detected accessibility errors.
- ✓ Assesses the severity level of errors upon detection.

hiberus automated accessibility analysis tool

Preserve the accessibility level achieved

As important than achieving the desired accessibility level in your project is maintaining it.

Using the AI:

- **Track and trace the evolution** of the accessibility in your product.
- **Foresee** potential accessibility problems.
- Locate **where** the accessibility has been lost and why you lost it.
- Reveal what the **current state of accessibility** is in your product.



A large, stylized number '1' rendered in a cyan outline font, positioned to the left of the first text block.

Cutting-edge technology and specialization.

A large, stylized number '2' rendered in a cyan outline font, positioned to the left of the second text block.

Practical and results-oriented approach.

A large, stylized number '3' rendered in a cyan outline font, positioned to the left of the third text block.

No limits.

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Thank you for attending

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