TRENDS IN TESTING 2025

Top 10 Trends in Testing 2025

How innovation affects your IT quality

sofius

We are Sofius. A powerhouse in software testing and quality improvement. A powerful combination of leading labels. Driven by collaboration, innovation, and high-quality expertise.

Introduction

The testing world is a knowledge-intensive and continuously changing sector. As a test consultancy organisation, we have the ambition to lead the way in our field. We identify, adopt, innovate, and share the latest trends and developments. We do this by visiting conferences, training without limitation, presenting at events, writing blogs, and organising in-house knowledge sessions. All this with just one goal: to make a significant contribution to the development within our expertise.

To optimally support our customers, we closely follow the trends in ICT, and specifically in software testing. Trends with which our consultants can make a greater impact and help customers to do the same. Because standing still is falling behind, especially in our world.

That is why Sofius conducts annual research into the most important trends and developments in the testing field and presents the results in this trend report. We hope to inspire and support organisations in the Netherlands with this, addressing their challenges of today and tomorrow.

In this trend report, we'll take you through the developments we see this year, and the differences compared to previous years.

Our research design

For the realisation of this trend report, we conducted extensive research into the most important trends and developments in the testing field. We did this by systematically examining where the discussion in our field really takes place.

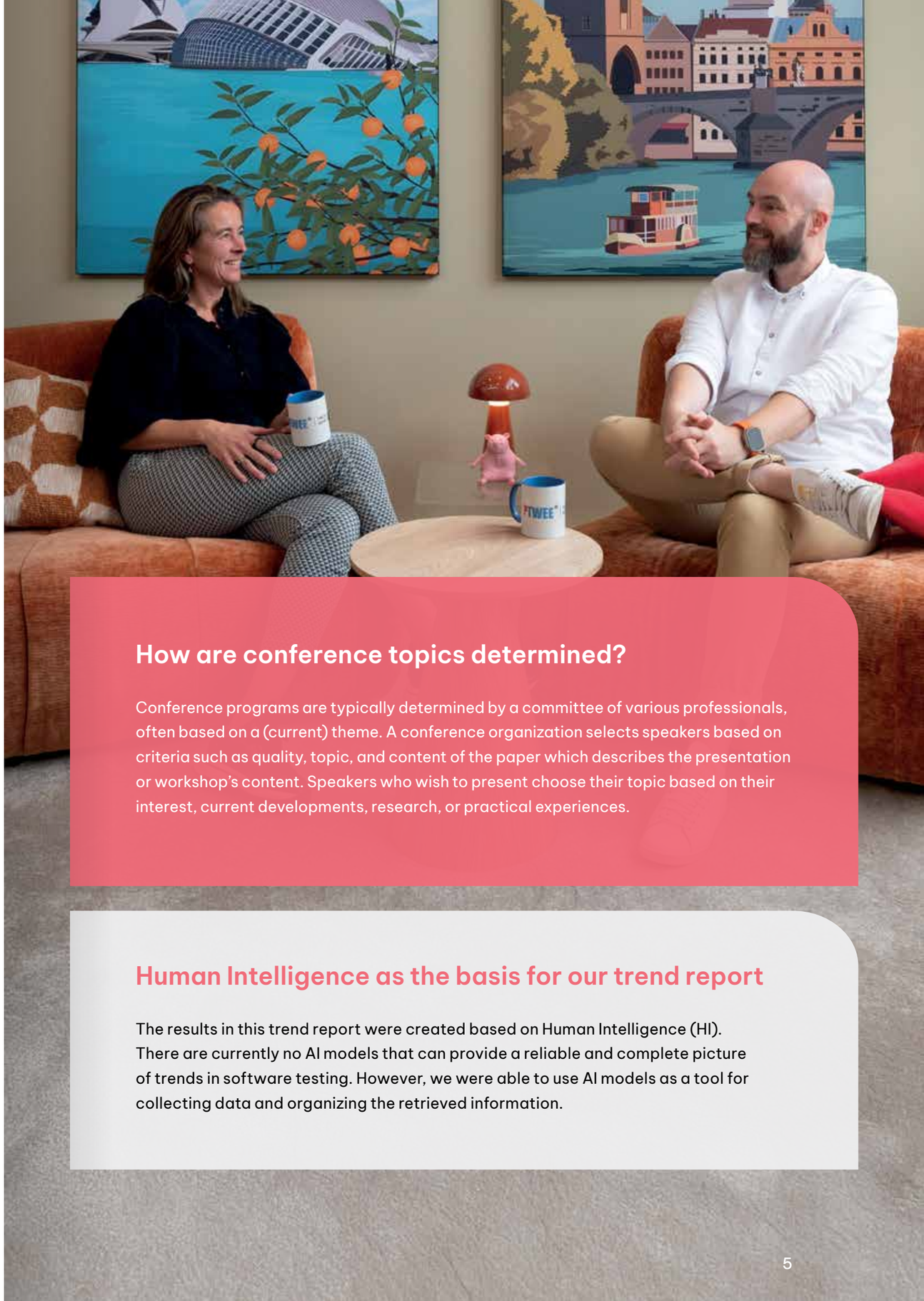
Specifically, we have:

- Analysed the themes and topics that were central to leading test-related conferences in Europe in 2022, 2023, 2024 and 2025, namely: Agile Testing days, AutomationSTAR, EuroSTAR, ExpoQA, HUSTEF, Nordic Testing Days, Peerscon, Robocon, Test Automation Days, Testbash, Testing United, Testnet, and WeTestAthens.
- Gathered insights from training sessions, knowledge sessions, and discussions with customers and partners.
- Included the knowledge and experiences of our own consultants, who attended the international events both as participants and as speakers.
- Asked our colleagues for their input.

We have brought all this information together and clustered it into clear categories. In doing so, we consistently looked at the substantive coherence and relevance for the practice of today and tomorrow.

Inspiring, Guiding, and Supporting

The result? A trend report that not only provides a representative overview of what is happening internationally in the testing field, but that also offers practical insights to organisations in the Netherlands. Our goal is to use this report to inspire, guide, and support customers in making choices that will continuously improve their software quality.



How are conference topics determined?

Conference programs are typically determined by a committee of various professionals, often based on a (current) theme. A conference organization selects speakers based on criteria such as quality, topic, and content of the paper which describes the presentation or workshop's content. Speakers who wish to present choose their topic based on their interest, current developments, research, or practical experiences.

Human Intelligence as the basis for our trend report

The results in this trend report were created based on Human Intelligence (HI). There are currently no AI models that can provide a reliable and complete picture of trends in software testing. However, we were able to use AI models as a tool for collecting data and organizing the retrieved information.

Top 10 Trends in Testing

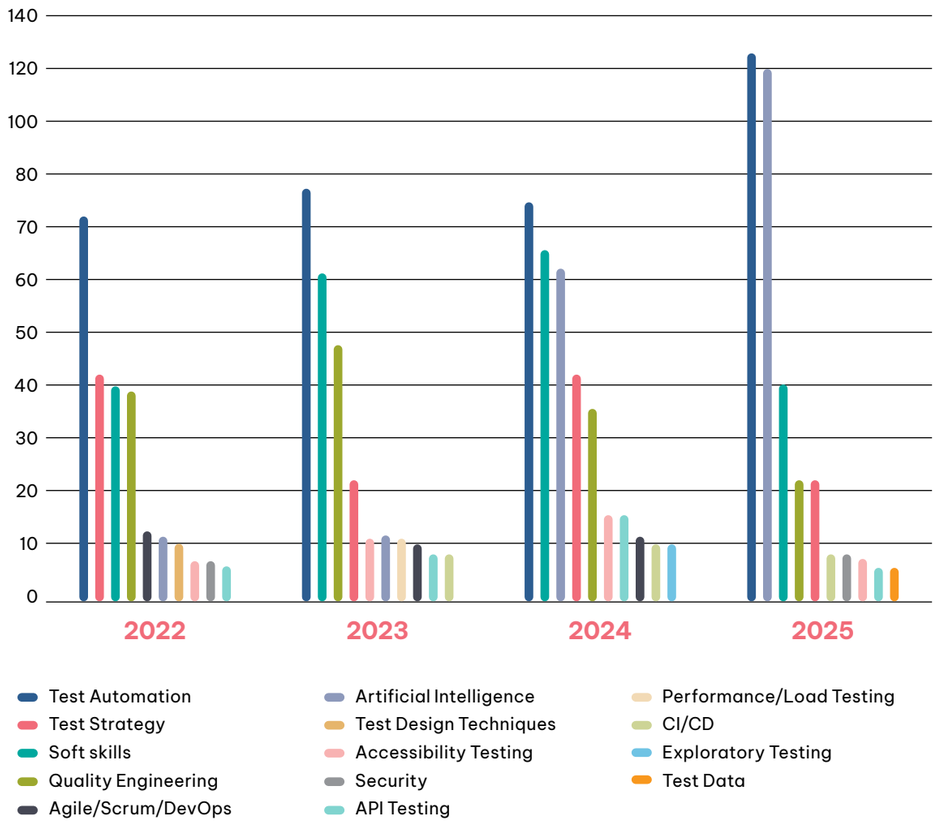
1. Test Automation
2. Artificial Intelligence
3. Quality Engineering
4. Soft skills
5. Test Strategy
6. CI/CD
7. Security
8. Accessibility Testing
9. API Testing
10. Test Data

Test Automation #1 has been the undisputed top trend for years, and for good reason. There is a lot of interest in trying out the newest techniques and increasing confidence in test automation. Where, in the past, one person was specifically responsible for test automation in the development process, nowadays every tester engages with test automation to a greater or lesser extent.

Artificial Intelligence (AI) #2 has been gaining popularity every year over the past few years. The potential seems great, and current applications can be a valuable supplement to make daily work easier, simpler, and faster.

The role of the tester is increasingly shifting towards that of a **Quality Engineer #3,** who looks at quality integrally and involves the entire team in this. Quality Engineering ranks third on the list of most important trends in testing. It is therefore not only an IT trend but a strategic choice that makes organisations more agile and future-proof.

Topics test related conferences 2022-2025



TREND 1

Test Automation

The question is not whether you need test automation, but how to set up test automation. After all, you want the time and investment you put into it to lead to the desired results. Whether this is increasing quality, a reliable application, or being able to release faster through more efficient testing. Properly implementing test automation in a complex landscape can certainly be a challenge.

Besides the fact that we are encountering more and more AI solutions for test automation at conferences, we also see a need for a solid foundation. Introductory workshops for tools like Playwright and Cypress, as well as the basic principles for API Testing, are being addressed. The past year also focused on how automated 'accessibility tests' can be incorporated into the CI/CD pipeline. One of the most important components remains the sharing of experiences with the use of (testing) tools at customers. At conferences, we primarily see attention for exchanging these practical experiences and gaining inspiration to get started with new ideas on the work floor.

To make these experiences concrete, it is wise to know which tools and frameworks are currently used the most. For test automation, Robot Framework, Playwright, Appium, and Cypress stand out. All these tools have large communities where you can ask for help and find information. The learning curve is quite small; it is not difficult to get started. If you want to read more about the most frequently used (testing) tools, you can find information about this in the TechRadar.

Our Test Automation TechRadar: an overview of proven, emerging, and discouraged (testing) tools and methods

Many organisations struggle with test automation due to the enormous range of tools and a lack of best practices. Our Test Automation TechRadar offers a unique, up-to-date, and practice-oriented overview of proven, emerging, and discouraged (testing) tools and methods. Based on the experience of our experts, the radar helps organisations make well-founded, future-proof choices. The result: more efficiency, lower costs, and faster releases.

Ideal for everyone involved in software development and quality: from IT managers to product teams. Our professionals guide you in choosing the tools and approach that truly work.

For more info: https://www.testautomationtechradar.com.

TREND 2

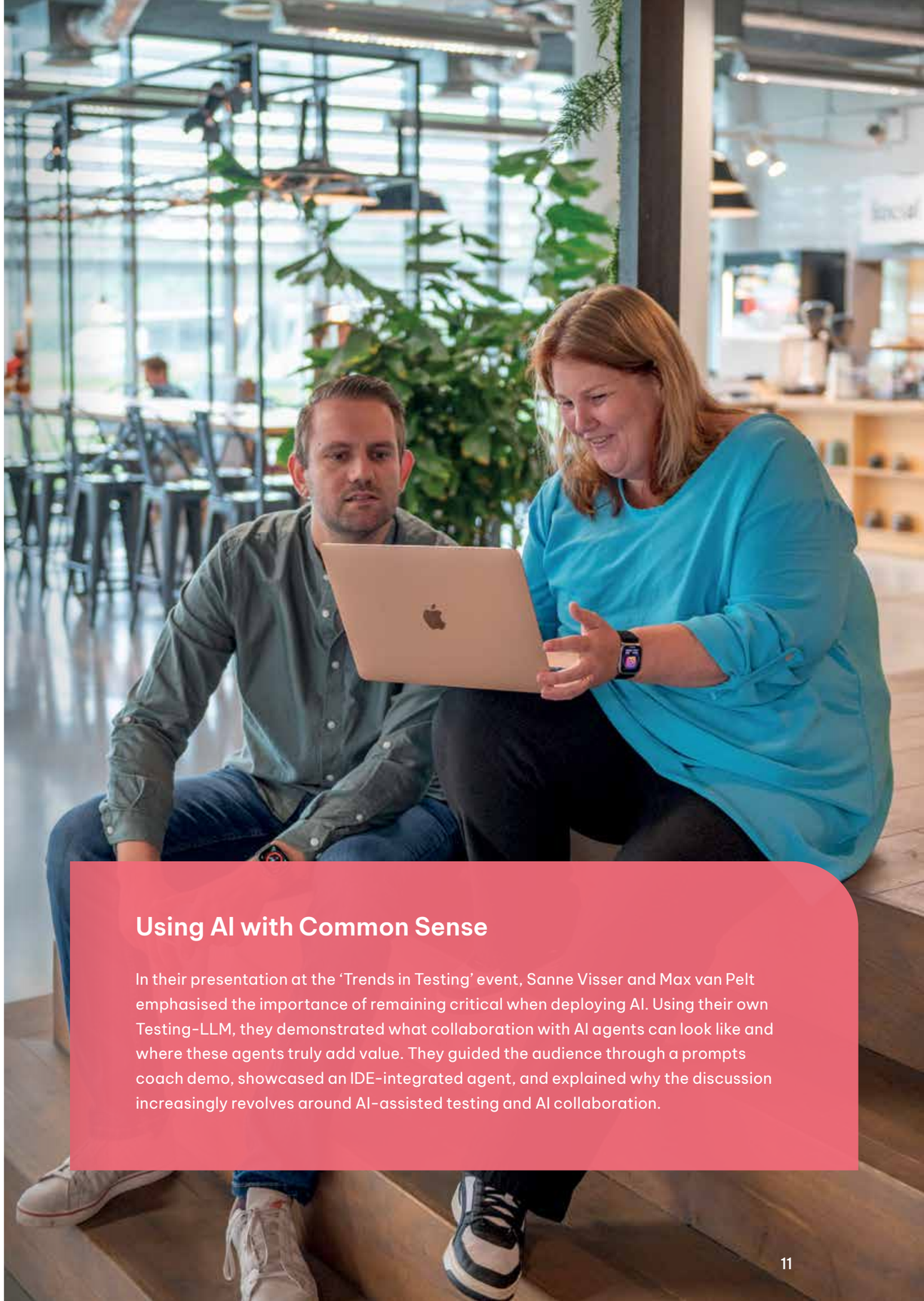
Artificial Intelligence (AI)

In 2025, we are seeing the attention for AI explode. From tools for developers to new solutions for testers. Cursor and Copilot are making developers' lives a lot easier, allowing features to be delivered faster and bugs to be solved more quickly.

However, useful applications for test (automation) engineers are lagging behind. Although solutions such as Model Context Protocol (MCP) are increasingly discussed and shared in blogs, their actual implementation is still limited. Many tools do not yet meet the core needs of testers: they should be easy to deploy, deliver consistent and objective test results, and integrate seamlessly into a pipeline. For example, there is a lot of discussion about security and compliance (AI) tooling, but good customer cases are still lacking.

At conferences, the emphasis is increasingly on the risks and security of AI. Think of biases in the data used to train models and the consequences thereof for AI applications. We also see more and more reports about so-called hallucinations: confident answers from a tool that do not seem to align with reality or the training data used.

The lesson? For a strong testing mindset, the role of the tester remains indispensable. AI provides the most value when you deliberately use it as a tool. While initially it was mostly fun to experiment, we now see that the possibilities have expanded rapidly and that the majority of testers now structurally use one or more AI tools in their work. The danger is that developers deliver faster thanks to AI, while testers fall behind. This puts pressure on the lead time and quality of releases.



Using AI with Common Sense

In their presentation at the 'Trends in Testing' event, Sanne Visser and Max van Pelt emphasised the importance of remaining critical when deploying AI. Using their own Testing-LLM, they demonstrated what collaboration with AI agents can look like and where these agents truly add value. They guided the audience through a prompts coach demo, showcased an IDE-integrated agent, and explained why the discussion increasingly revolves around AI-assisted testing and AI collaboration.

TREND 3

Quality Engineering

Where testers previously were mainly assigned to ‘testing’, the trend in recent years is the increasing emergence of Quality Engineers. A Quality Engineer takes a much more integral view from a quality perspective than ‘just’ testing. An important development here is that quality is increasingly becoming the responsibility of the entire team. The Quality Engineer fulfills a motivational role by stimulating quality thinking within the team.

In addition, we are increasingly seeing the role of Quality Coach emerge. This is a further development of the traditional test manager, who looks more broadly at embedding quality within the organisation. The Quality Coach helps to anchor quality thinking, improve team collaboration, and encourage standardisation in working methods and tooling.

This is also visible at conferences: Quality Engineering is a prominent theme there. It shows that attention is not solely focused on tooling, but also on the role of people and culture in safeguarding quality.

Is a Quality Coach interesting for your organisation?

Are you interested in what a Quality Coach can mean for your organisation? In a one-day workshop, we map out where you stand on the axes of People, Process, and Tech using our Quality Coach model. We then provide advice on how you can further develop this at the individual, team, or organisational level towards your desired goal.

Getting everyone on the same page: Quality Infected Teams workshop

As a team, you work together towards a single goal: a high-quality product. On the way to that destination, you encounter all kinds of challenges. From ‘not understanding each other well’ and technical challenges to unexpected events. In this 4-hour workshop, you will be introduced to our vision on Quality Infected Teams and actively work with a card game that we specially developed for this purpose. The game helps you start the conversation about testing and software quality using three core areas: Whole Team Approach, Fast Feedback, and Exploration. By playing the card game, you gain insight into where you stand as a team and where you can improve.

TREND 4

Soft skills

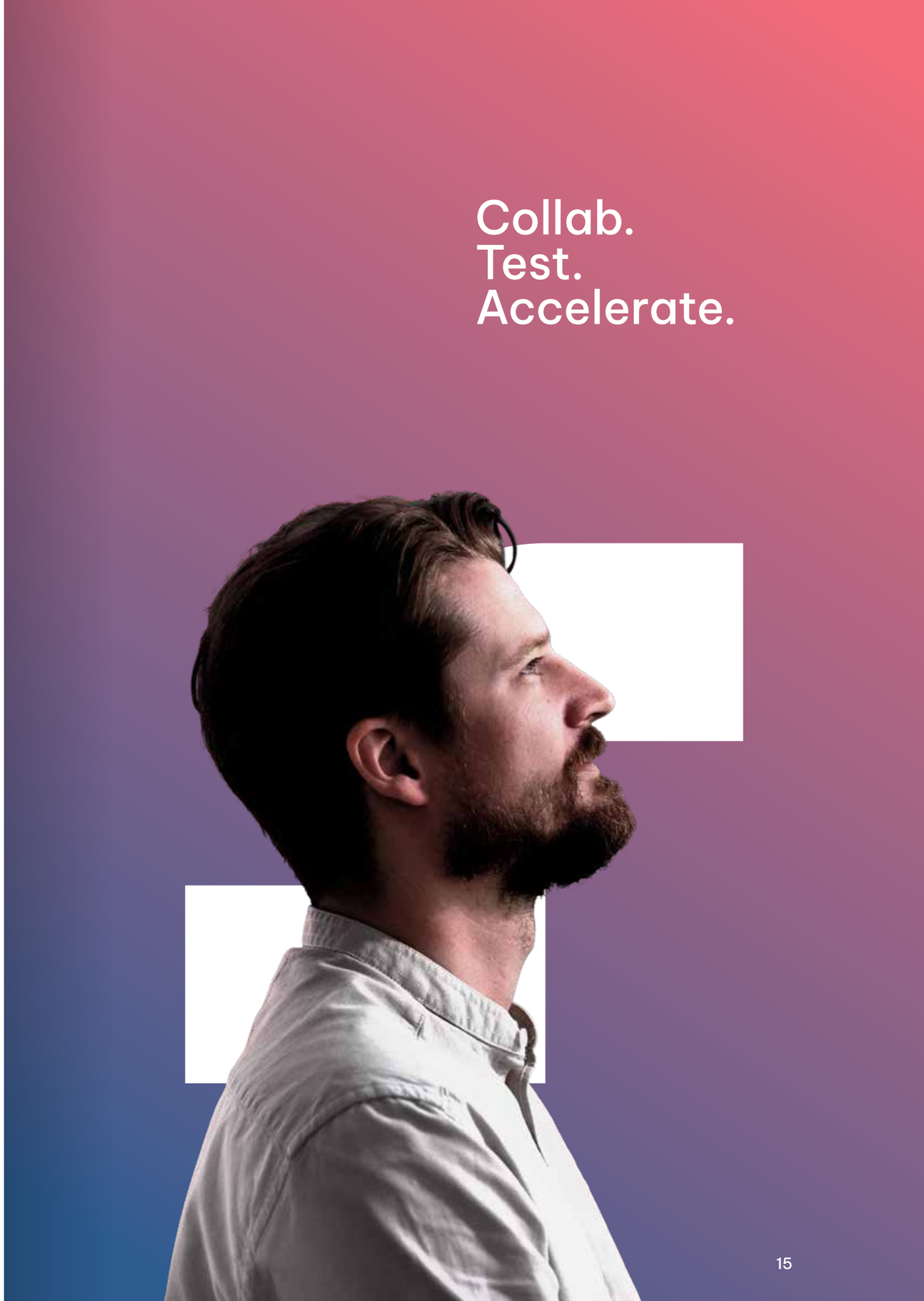
Mastering soft skills is crucial for achieving results, getting people on board with good ideas, and collaborating effectively. Good consultants distinguish themselves not only by their knowledge and expertise, but precisely by their above-average soft skills.

The soft skills trend is a combination of the topics: Leadership and Communication Skills. These topics have a great deal of overlap, and so we have chosen to combine them.

This year we see attention for awareness of how your brain works, recognising and breaking patterns, and optimally utilizing your own talent. Themes such as developing a test mindset, quality thinking, and encouraging your team to embrace this are also on the agenda.

The more broadly quality thinking is supported within an organisation, the better the quality and generally the shorter the lead time. Faster mutual understanding, preventing misunderstandings, and critically approaching specifications and customer wishes ultimately lead to better products and stronger organisations.

The ability to apply a broad set of soft skills also supports taking an organisation through a change, or further developing quality awareness at the management level. The popularity of soft skills is also reflected in our colleagues who share their knowledge on stage. Sanne Visser and Linda van de Vooren presented on this topic multiple times on a variety of conferences.



TREND 5

Test Strategy

Our field is constantly changing, but some fundamentals remain. One of these is the test strategy. New (test) environments, (test) tooling, programming languages, and development methodologies have significantly influenced the way we shape test strategies.

Within a test strategy, it is important to define where responsibilities lie and where the different types of testing fit within the overall quality process of the Software Development Life Cycle (SDLC). For the entire organization, the strategy means, for example, thinking about exactly what you test where, and which code standards or other compliance you deploy. At the team/individual level, it concerns, for example, clear agreements about the reviewing of created test scenarios, or whether your team has a branching strategy.

We see a clear shift in the market: testers (including test managers) must become increasingly technical to understand the complete SDLC and make the right choices. With the growing popularity of shift-left and shift-right, the location and method of testing within the SDLC are also changing. Nico van der Elst and René van Veldhuijzen shared their experience with this during the Trends in Testing event, and how by applying these techniques, they achieved higher quality at lower costs for a major client.

Innovation in Test Strategy: Dare to Break with Chain Testing

During the Trends in Testing event, René van Veldhuijzen and Nico van der Elst explained how, for a major client, we made end-to-end testing largely redundant by using modern test strategies—such as shift left, shift right, and contract based testing. The result: higher quality at lower costs.

Test Strategy Workshop

With this workshop, Sofius offers help with developing or sharpening your test strategy. Over two half-day sessions, you will gain clear insight into how testing is conducted within your organization and where opportunities for improvement lie. Together, we analyze how the testing process is structured, which bottlenecks you experience, and where optimization is possible. We look at strategy, processes, and tools, among other things, and bring everything together in a concrete and directly applicable advice. You will know exactly which steps you can take, and in which order, to make testing smarter, more efficient, and more effective.

Strategically Approaching Test Automation with the Test Automation Roadmap

The Test Automation Roadmap model consists of five different mindsets: First steps, Cherry-pick, Everything, Multi-team, and Enterprise. On the other axis of the model, you will find Individual, Team, and Organization. By understanding where you are in the model, and where you would like to develop, you can define the steps you need to take to get there. It helps to clear up assumptions about the goal and your location within the model. This model ensures a shared language and understanding, both within and between teams. We will tell you all about it in a 2-hour session!

TREND 6

CI/CD

Bringing new functionality from development to production at the push of a button: it is possible with a well-designed CI/CD pipeline.

CI/CD enables teams to implement code changes faster and more reliably. However, setting up such a pipeline requires the necessary knowledge. There is a lot of demand for experiences and best practices: what should you pay attention to, what works and what doesn't?

Fully automatic deployment, testing, and implementation sounds appealing. And it is, especially when you want to quickly move a change to production. There is a pitfall in this process when the pipeline runs for too long, as it can potentially block other processes.

TREND 7

Security

Security incidents are increasingly making the news. This increase has led to security gaining a higher priority throughout the entire development process: from design to development and testing.

Security testing focuses on simulating attacks on systems, networks, or applications to expose and remedy existing or new vulnerabilities. By paying attention to security early on (during the design phase), your organization can proactively reduce the likelihood of incidents.

Our colleague Sander van Beek presented his tutorial 'Make a fearless start with security testing' at various conferences last year. If you are interested in attending this tutorial, please contact us!

TREND 8

Accessibility Testing

Digital accessibility is more topical than ever. New European regulations for digital accessibility, laid down in the European Accessibility Act (EAA), obligate companies to make their websites, apps, and other digital products and services accessible to people with disabilities. We see this reflected in the trends!

This legislation, which came into effect on June 28, 2025, sets minimum standards for accessibility and is intended to ensure that everyone, regardless of their limitations, has access to digital services.

Due to the new rules, website accessibility is finally getting the priority it deserves. When testing a frontend, you can use tooling to check whether people with color blindness can still view the page properly. Although a lot of tooling and advice is available, no single tool fully covers this in a quantifiable way; the experience and feedback of end-users remains crucial. It is therefore important to test together with end-users and also to follow your own intuition if something, in your opinion, lacks good contrast.

Talks and workshops at conferences cover different ways to incorporate this into your strategy and which tools are available for it. What a tool deems 'good' does not always work in practice. Precisely for this reason, critical self-reflection remains indispensable—something that is often still underexposed at conferences.
You can read more about the available tools in our TechRadar.

Discover our In-Company Session on Accessibility Testing

In this interactive presentation, we will take you into the world of Accessibility Testing. We will briefly discuss the background and the obligations arising from the legislation. After that, we will primarily focus on practical application.

- We will provide concrete tips and tools for design and development.
- We will offer a deep dive into testing, including code examples and tooling that you can apply immediately.

TREND 9

API Testing

APIs (Application Programming Interfaces) make it possible for systems to interact with each other without knowing each other's internal workings. The use of APIs is still growing, and consequently, the importance of thorough testing remains undiminished.

Attention is primarily focused on efficient testing with existing tooling. Postman is still the best known for manual testing, and Rest Assured for automated testing. Security is playing an increasingly important role in this: from managing applications that have access to an API to performing security tests to ensure that only the correct data is shared.

A clear trend is the increase in Contract Based Testing. This approach is increasingly replacing unstable integration tests and making connections more reliable. In addition, we are seeing that bidirectional APIs—where systems not only retrieve information but can also send back or modify it—are becoming the standard. This means that the dependency and complexity between systems are growing, and therefore so is the importance of careful testing.

Learn More with our Training on Contract Based Testing

Do you want to learn everything about Contract Based Testing? You can learn all about it in a training session of four half-days. The training covers the theory, and we include a lot of practical examples. Contact us for more information.

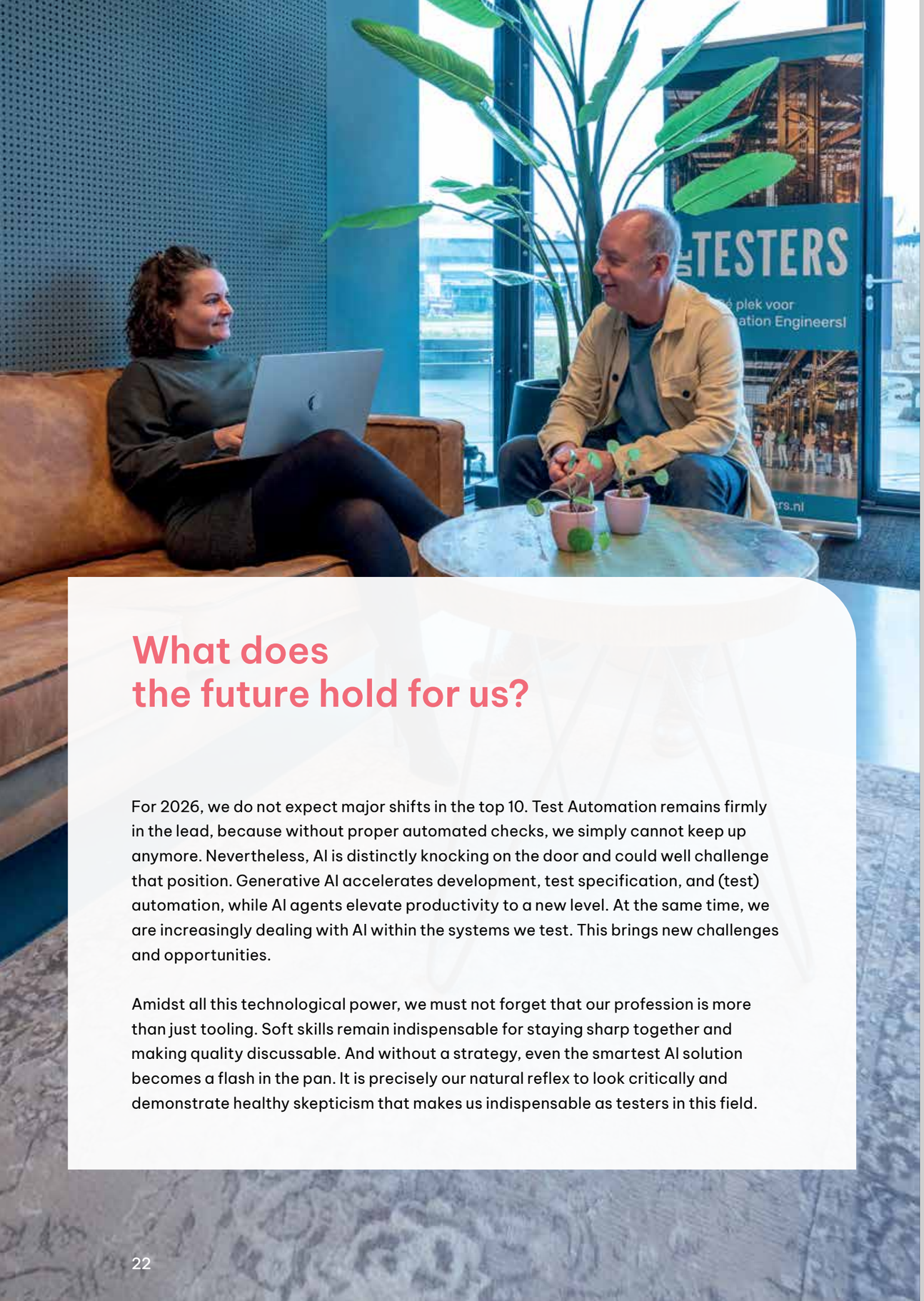
TREND 10

Test Data

The complexity of software, data, landscapes, and the interdependencies between them continues to increase every year. This presents major challenges in the area of test data. We see a concrete need for support in this area among our clients.

Testers want to execute scenarios that approximate reality as closely as possible. At the same time, strict requirements from GDPR apply. Setting up future-proof test data management is therefore often a significant task.

Modern solutions, such as the use of AI in creating test data, offer a solution for test data generation, management, and anonymization. This ensures the quality and reliability of testing. It allows teams to test realistic scenarios, further increasing the reliability of tests without using production data.



What does the future hold for us?

For 2026, we do not expect major shifts in the top 10. Test Automation remains firmly in the lead, because without proper automated checks, we simply cannot keep up anymore. Nevertheless, AI is distinctly knocking on the door and could well challenge that position. Generative AI accelerates development, test specification, and (test) automation, while AI agents elevate productivity to a new level. At the same time, we are increasingly dealing with AI within the systems we test. This brings new challenges and opportunities.

Amidst all this technological power, we must not forget that our profession is more than just tooling. Soft skills remain indispensable for staying sharp together and making quality discussable. And without a strategy, even the smartest AI solution becomes a flash in the pan. It is precisely our natural reflex to look critically and demonstrate healthy skepticism that makes us indispensable as testers in this field.

Which trend has piqued your interest?

Do you want to know how to use these trends to safeguard the quality of IT and software within your organization? Has this report raised questions for you about the first steps towards implementation, or are you curious about how we can further assist your organization?

If so, please contact Sofius.

www.sofius.com
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Powerhouse in Software Testing and Quality Improvement

Sofius is the partner for improving software quality. With our 6 labels and more than 300 professionals, we work daily on the success of our clients. Together, we advance people, companies, and software systems.

We offer the full spectrum of services for improving software quality:

- **From test analysis and execution to test automation and test management.**
- **And from coaching & consulting to Enterprise software testing and low-code testing.**

In doing so, we combine the deployment of passionate consultants with state-of-the-art knowledge of markets, domains, software, and systems.

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How innovation influences your IT quality