

## CASE STUDY

## CTG Helps COST Enhance Testing Methods and Automation Capabilities to Improve Software Quality and User Experience

### Our Client

The European Cooperation in Science and Technology (COST) is a funding organization for the creation of research networks, called COST Actions. These networks offer an open space for collaboration among scientists across Europe and beyond, thereby accelerating research advancements and innovation.

COST is bottom up, meaning that researchers can create a network—based on their own research interests and ideas—by submitting a proposal in any science field to the COST Open Call. COST Actions are highly interdisciplinary and open. It is possible to join ongoing Actions, which therefore keep expanding over the funding period of four years. They are multi-stakeholder, often involving the private sector and policymakers, as well as civil society.

As of 1971, COST receives EU funding under the various research and innovation framework programs, such as Horizon 2020. COST funding complements national research funds, as they are exclusively dedicated to cover collaboration activities, such as workshops, conferences, working group meetings, training schools, short-term scientific missions, and dissemination and communication activities.

### Challenges and Objectives

COST Association was looking for a service company that could help them improve and structure their testing process, deliverables, and overall quality of their core application.

The main project objectives that were set at the start of our journey were the following:

- Assess how software testing (and software quality) methods are implemented at COST
- Identify the most important and beneficial areas for improvement
- Develop three Project Improvement cards to further explain how the improvement could be approached
- Perform a Proof of Concept (PoC) with a test automation tool to validate that the application is suitable for automation to allow for greater testing coverage

## CTG's Solution

In mutual agreement, we decided to perform a high-level assessment of COST's software testing practices, as well as a PoC for test automation using Ranorex. Both of these services are part of CTG's suite of comprehensive Testing Solutions. The focus of these initiatives was the e-COST platform, the core application that supports all of the organization's activities, like COST Open Call or COST Actions.

For the assessment, we looked at the software testing practices across the business and IT departments, involving stakeholders from all different competencies—from business analysts to software developers and operational support. It had a clear focus on both people, processes and tools, providing a view on the current situation (As Is) and potential short, mid and long-term improvements that could lead to a desired future state (To Be).

COST sponsors then had the opportunity to select three items from the list of possible improvements, which would be detailed further using Project Improvement cards. Ultimately, they selected the following: define a test approach, define a regression test suite, and implement automated functional tests. CTG developed Project Improvement cards that explain how COST could approach these items, including possible benefits, preconditions, high-level tasks, additional recommendations, estimated cost, and any other applicable information.

Based on our expertise in Automated Testing, we hypothesized that Ranorex would be a good fit for the test automation PoC in COST's environment. A seasoned automation expert, together with the main software tester, validated this hypothesis by automating various test scenarios of varying levels of complexity.

As a final step in this first part of the journey, CTG presented all results, from both the assessment and the PoC, to the main sponsors. On special request, an additional session was organized for a number of other key stakeholders in COST.

## Results

All of the objectives specified at the start of the project have been achieved, and some key results include:

- Interviewed 10 people to assess current software testing practices
- Delivered list of improvement items, including a cost-benefit heat map
- Delivered three Project Improvement cards
- Performed a successful PoC with Ranorex as the main software testing automation tool, which demonstrated how automation can accelerate cycles and expand coverage

After this initiative, COST hired a part-time test automation expert from CTG, who established the first e-COST automation scripts and provided the necessary coaching to help COST's software tester use Ranorex. This enabled COST to build and maintain their own automation scripts and run them whenever needed, thus gradually increasing the test coverage with each release. This enables COST to release a higher-quality application that provides an enhanced user experience to their community of researchers, allowing them to focus on continuous innovation.



**About CTG** CTG (NASDAQ: CTG) is a leading provider of digital transformation solutions and services that accelerate clients' project momentum and achievement of their desired IT and business outcomes. We have earned a reputation as a reliable, results-driven partner focused on improved data-driven decision making, meaningful business performance improvements, new and enhanced customer experiences, and continuous innovation. CTG has operations in North America, South America, Western Europe, and India. The Company regularly posts news and other important information online at [www.ctg.com](http://www.ctg.com).



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