**Developing high-quality software is tough. ECLAIR is designed to help development, QA, and safety teams reach their quality goals**

# ECLAIR Qualification Service

With the ECLAIR qualification service, BUGSENG highly-qualified personnel join forces with customers' safety teams in taking care of ECLAIR qualification following the prescriptions of functional safety standards. We will reproduce your ECLAIR operational environment and particular ECLAIR use case, and provide you with the corresponding *ECLAIR Qualification Report* along with all the required supporting evidence to justify the use of ECLAIR in your project.

## 1 Highlights

- The service supports several functional safety standards: CENELEC EN 50128, EN 50657 and EN 50716 (railway), ECSS-Q-ST-80C (space), IEC 61508 (industrial), IEC 62304 (medical), ISO 26262 (automotive), ISO 19014 (earth-moving machinery), ISO 25119 (agriculture and forestry), RTCA DO-178C/DO-330 (aerospace), ISO/SAE 21434 (cybersecurity).

- ECLAIR validation covering all editions of the MISRA C and MISRA C++ coding standards.

- ECLAIR validation for the computation of HIS and other source code metrics as well as all other qualifiable ECLAIR features.

- No stress: choose the ECLAIR qualification service and get a discount if you later buy an ECLAIR qualification kit; if you already have an ECLAIR qualification kit, you can still buy the ECLAIR qualification services at a discounted price.

## 2 Documents Provided

**ECLAIR Qualification Plan, Criteria and Report** All you need to hand to assessors, including:

- Definition of the ECLAIR use-case for which the validation holds.

- Description of the qualification procedure.

- Description of tool qualification requirements set forth by the applicable functional safety standard and how these requirements correspond to the used qualification procedure.

- Full listing of the test results.

- Description of any tool failures that may have been found.

- Description of how each of these tool failures may be mitigated.

**ECLAIR Safety and Security Manual** Contains all you need to know on the use of ECLAIR for the development of safety-related systems.

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# 3 ECLAIR Qualification Service vs Qualification Kits

ECLAIR has been designed, at the outset, to be qualifiable to the strictest requirements of functional safety standards. If you are undecided about the choice between a qualification kit and the qualification service, here are the factors you should take into account.

| ECLAIR Qualification Kit is for you if | ECLAIR Qualification Service is for you if |
| --- | --- |
| ECLAIR qualification will be a recurring task for your company | ECLAIR qualification may be a one-time task for your company |
| You have both suitably qualified personnel and the time to perform the qualification in-house | You lack time or manpower (we can do the qualification for you in 10 working days) |
| You are willing to write the qualification report yourself (the qualification kit provides crucial guidance on how to do that properly) | You prefer not having to produce the qualification report yourself and would like us to do it properly for you |
| You want all the evidence of the qualification work to be in your hands, along with the ability to repeat the validation process at any time | You only need the qualification report and safety manual: all the remaining artifacts (including test cases) can remain with BUGSENG |

Still undecided?

You may go for the qualification service, and get a substantial discount if you, for other projects, decide to switch to the qualification kit. And of course, starting with the qualification kit does not preclude to use the qualification service, if you later find yourself in trouble due to tight deadlines.

Do not hesitate to contact us for more information: we will be glad to consult you on the best solutions for your needs.

## 4  The Bigger Picture

ECLAIR is very flexible and highly configurable: it supports all kinds of software development workflows and environments.

ECLAIR is fit for use in mission- and safety-critical software projects: it has been designed from the outset to exclude configuration errors that would undermine the significance of the obtained results.

ECLAIR is developed in a rigorous way and carefully checked with extensive internal test suites (tens of thousands of test cases) and industry-standard validation suites.

ECLAIR is based on solid scientific research results and on the best practices of software development.

ECLAIR's unique features and BUGSENG's strong commitment to the customer, allow for a smooth transition to ECLAIR from any other tool.

BUGSENG's quality system has been certified by TÜV Italia (TÜV SÜD Group) to comply with the requirements of UNI EN ISO 9001:2015 for the "Design, development, maintenance and support of tools for software verification and validation" (IAF 33).

BUGSENG is an Arm's Functional Safety Partner, and is thus recognized as a partner who can reliably support their customers with industry leading functional safety products and services.

## For More Information

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**bugSeng**

**no shortcuts,
no compromises,
no excuses:
software verification done right**