

LDRA Tool Suite Gives Edge to Esprit Lean Product Development

Static Analysis Proves IEC 62304 Compliance

Who are Esprit Lean?



Esprit Lean of Portet sur Garonne, France is a specialist company that provides custom electronic and software systems guiding production from concept and design through to market. With expertise in both hardware and software, Esprit Lean has developed systems used in satellites, automotive, medical and industrial control applications. As a company Esprit Lean is committed to implementing and applying the most stringent quality techniques and practices to its development processes. As part of this commitment, in addition to implementing an internal software control process, Esprit Lean is also ISO 9001 certified.

What was the challenge?

In working on a medical project to assist with cancer treatment, Esprit Lean was required to comply with the IEC 62304 standard. Although the Esprit Lean team was trained in the medical standard, they knew that a verification tool capable of implementing coding rule compliance would boost efficiency, provide a standardised style and a way to comment the code, and eliminate errors at the programming level.

“Knowledge of a standard isn’t enough when software complexity is high and people’s health and safety will be affected,” noted Frédéric Rabouin, embedded software developer at Esprit Lean. “A tool enforcing IEC 62304 mitigates risk and provides extra security and confidence that the software developed will meet standard requirements and be error free.”

“A tool enforcing IEC 62304 mitigates risk and provides that extra security.”

How did LDRA provide a solution?

To maximise efficiency, tool configurability is essential. “We configured the LDRA tool suite to meet the company’s specific standard requirements as well as those of IEC 62304,” Rabouin confirmed. “LDRA’s standard-specific templates streamlines configuration, detailing the steps for process workflow and standards compliance.”

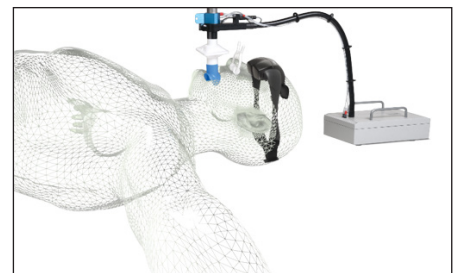
Working interactively, the development team applies the configured LDRA tool suite to the code. “When evaluating our code, we found that it was easier to use the LDRA’s graphical interface than that of our IDE,” noted Rabouin. “LDRA displayed all of the subfunctions it used in analysis as well as graphically representing the standard. A thorough analysis only took five minutes time, so it was easy for us to work iteratively with the tool.”

What edge did you gain?

The clarity of the LDRA tool suite eased team communication and offered tangible proof-of-process for Esprit Lean.

“Because all aspects of development are documented, project details are easily transferrable,” noted Rabouin. “LDRA’s documentation of the details facilitates communication within the team during a project as well as ensuring we don’t lose specific process details when an employee moves on.”

For Esprit Lean, LDRA’s ability to provide a real-time demonstration of how it caught errors in the Esprit Lean workflow was invaluable.



Synchro Module: Radiation therapy system for cancer treatment

What’s next?

The LDRA tool suite has changed the way Esprit Lean does business. “We now have a sales quality argument that we can present for new contracts,” confirmed Rabouin. “The LDRA tool suite ensures that our products are compliant and that security is worth a premium for customers. They can rest assured that any code we provide has been rigorously reviewed, achieves standards’ compliance, and will be easier to maintain, reuse and add functionality to.”

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w: www.ldra.com **e**: info@ldra.com