

Simulation & HIL testing

Models, simulated scenarios, and real-device test workflows that make system behavior observable and repeatable. We help teams translate requirements into executable checks across software and hardware boundaries.

WHAT WE CAN DO

- 01

System modeling

Define interfaces, assumptions, dynamics, and test scenarios around the behavior that matters.
- 02

Hardware-in-the-loop

Drive real targets from a controlled host environment and capture repeatable diagnostic results.
- 03

Automated verification

Test orchestration, structured device responses, regression checks, and CI-ready workflows.
- 04

Fault & boundary cases

Exercise missing inputs, communication failures, transitions, and recovery behavior deliberately.

TECHNOLOGIES & WORKING AREAS

Hardware-in-the-loop / Python / Docker / Test automation / Fault injection / Simulation / CI

A CLEAR PATH TO HANDOVER.

WHAT YOU RECEIVE

- Models, test harnesses, or fixtures in scope
- Executable test scenarios and procedures
- Automation scripts and environment setup
- Result reports tied to acceptance criteria
- Handover documentation and known gaps

HOW THE WORK PROGRESSES

- 01 **Choose the evidence**
Requirements, risks, and acceptance criteria.
- 02 **Build the environment**
Models, host tools, and hardware interfaces.
- 03 **Exercise scenarios**
Normal, boundary, and injected fault cases.
- 04 **Report & repeat**
Traceable results and reproducible reruns.

RELEVANT ENGINEERING

ESP32 HIL Test Framework

Structured JSON diagnostics on real ESP32-C3 hardware, driven by host tooling.

RV32I Pipelined SoC

Simulation and formal checks complementing hardware validation.

TO SCOPE YOUR PROJECT

- / System interfaces and test requirements
- / Target hardware and access method
- / Available models or reference behavior
- / CI and reporting requirements

LET'S DISCUSS YOUR PROJECT

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