CASE STUDY

Accelerating E-Mobility: CETIM Deploys Aqira for Smarter R&D

CETIM, the French Technical Center for Mechanical Industries, has selected Aqira, a software solution from HBK (Hottinger Bruel & Kjaer), to accelerate the design and validation process for electric vehicles (E-mobility). By leveraging Aqira's advanced capabilities, CETIM has accelerated its R&D efforts in the field of E-Mobility, tackling the challenges of managing, analysing, and sharing vast amounts of data from prototype electric equipment.

CHALLENGE

Managing, analysing, and sharing large volumes of prototype data across diverse E-Mobility R&D projects and operating conditions.

SOLUTION

CETIM deployed Aqira for centralised data management, standardised processes, and broader access to nCode tools across departments.

RESULT

Accelerated design and validation workflows, improved data traceability, and enhanced collaboration across CETIM's E-Mobility mission profile projects.

CHALLENGE

CETIM is actively working on numerous industrial R&D projects concerning new electrical equipment (E-Mobility). In this context, the technical center was faced with complex challenges in terms of managing, analysing, and sharing big data coming from electrical equipment prototypes in operation.

“To catch the real-life duty cycles CETIM has to realise multiphysics testing campaigns on a wide range of equipment and machinery under diverse operating conditions, enabling comprehensive coverage of all product lifecycle scenarios. We needed a software platform capable of synthesising large volumes of data to optimise mechanical system design and validation”, says Denis Chojnacki, heading the mission profile project.

SOLUTION

After completing a Proof of Concept, CETIM chose Aqira for its advanced features, the power of its nCode analytics, and the user-friendly Web interface. The key points for the investment decision in 2024 for the Aqira solution were:

- The overlay dedicated to large volumes of data, allowing data to be indexed and measurements to be tagged with contextual metadata to make them available to the various CETIM departments (fatigue, simulation, measurement, etc.)
- Administrated management of users, applications, and post-processing flows, ensuring the use of standard-ised processes validated by our experts
- Guaranteed traceability of post-processing process versions
- Reduction in license consumption times via processing launched on a dedicated powerful server
- The ability to share measurements and results for our clients beyond traditional pdf reports
- And last but not least, the Aqira platform benefits from various nCode tools (Glyphworks, DesignLife, Vibesys) to share more widely the results obtained by our different CETIM measurement and simulation teams within the framework of digital twin type approaches

APPLICATION EXAMPLES

Aqira has enabled the broader use of nCode tools, previously installed locally and reserved for experts.

Through centralised management, this avoids multiple versions of post-processing processes.

The dedicated IT architecture also ensures data security and provides access to the history of post-processing performed on the data.

Aqira has been used at CETIM since 2025 on major mission profile projects related to the electrification of mobile equipment such as mini-excavator or telehandler.

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