

How to optimise product design for battery performance

1. Performance



Ask: Can the battery do the job it's intended for?

The key to getting the best performance out of a products' battery over its intended life is an understanding of the use-case. To select the correct cell or battery type, engineers must understand parameters such as charge-time, operating temperature, the load profile of the device, run-time expectation and the required cycle-life of the battery.

2. Safety

Ask: Can the battery power the device safely and securely?

Device safety is paramount and as such, device OEMs should partner with a battery integrator who can demonstrate a structured approach to safety. Battery safety must be considered holistically, taking into account the environment in which the battery must operate and the electrical requirements of the application.

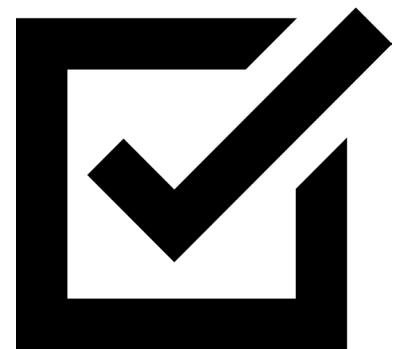
Once these are understood, the correct cell selection can be made. Suitable mechanical protection is also created alongside any electronic protection required to prevent over-charge, over-discharge, over-current and over-temperature. Safety must be verified through testing to internationally agreed safety standards, policed by ongoing auditing of both cell and battery manufacturing sites.

3. Reliability

Ask: Can it perform the task for which it is intended?

In many applications the battery is the sole source of power so reliability is essential. Design engineers should consider the cell selection, a robust electro-mechanical design and a full understanding of the application. They should also

contemplate testing to international performance standards and assembly in ISO 9001 accredited manufacturing facilities (ISO 13485 for medical applications).



For expert advice when designing a battery for your next product, contact Accutronics on sales@accutronics.co.uk or +44 (0)1782 566622.

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