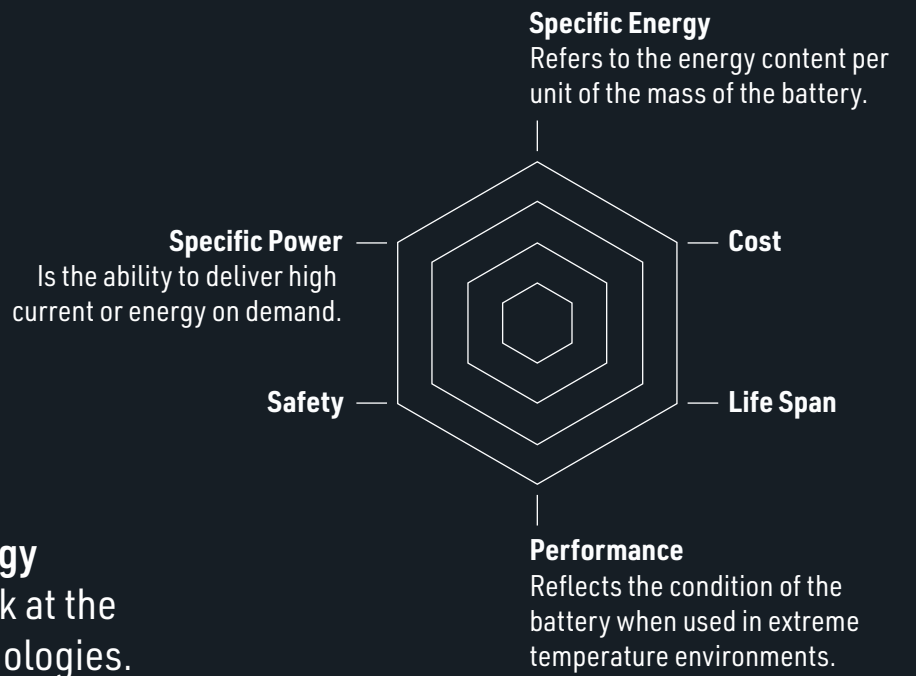


Types of Lithium-ion Batteries



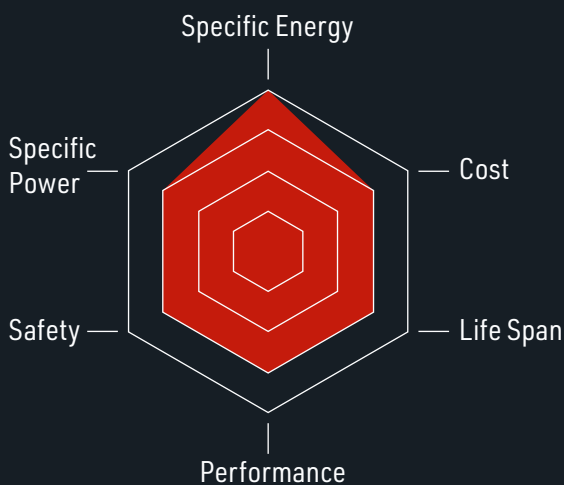
The composition of a lithium-ion battery determines its **energy density, safety, cost, and overall performance**. Here's a look at the tradeoffs between the six major types of li-ion cathode technologies.

Breakdown of Cathode Types

Of the six major Li-ion technologies, **NMC, NCA, and LFP** cathodes are most commonly used.

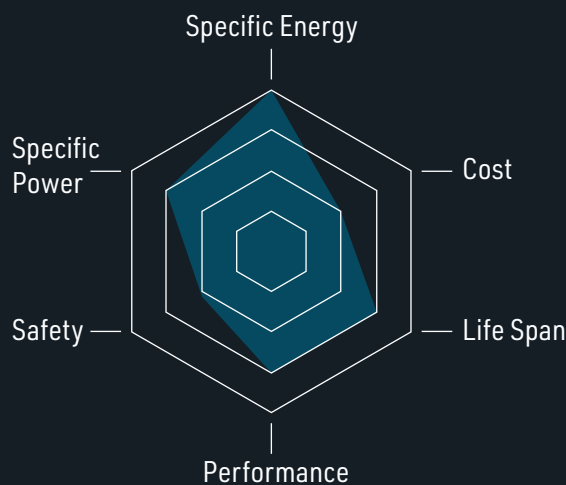
NMC LITHIUM NICKEL MANGANESE COBALT OXIDE

NMC batteries are named after different ratios of minerals in the cathode. For example, the **NMC811** cathode comprises **80% nickel, 10% manganese, and 10% cobalt, along with lithium**.



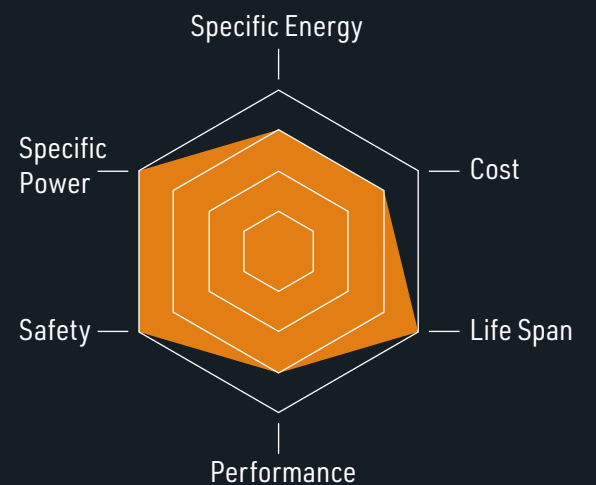
NCA LITHIUM NICKEL COBALT ALUMINUM OXIDE

Nickel based cathodes like NMC and NCA offer **high specific energy**.



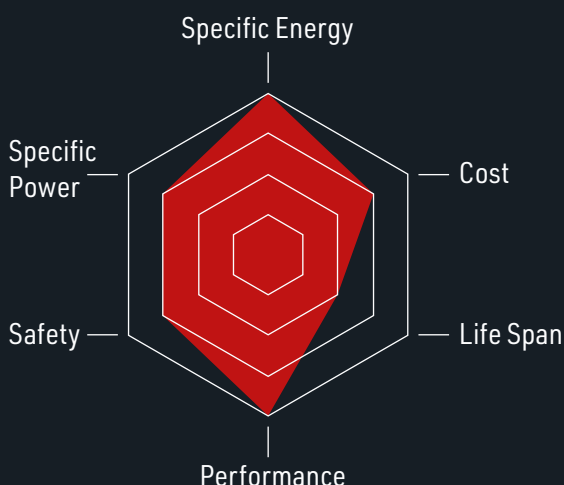
LFP LITHIUM IRON PHOSPHATE

LFP batteries are used in **energy storage systems** and are unmatched for **safety and lifespan**.

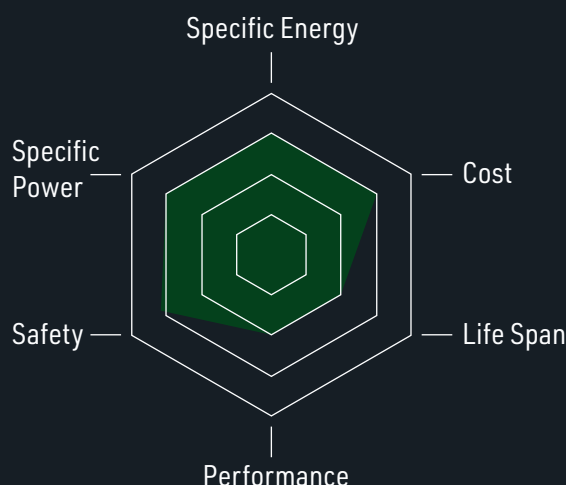


LCO LITHIUM COBALT OXIDE

Lithium Cobalt Oxide cathodes are a popular choice for **laptops, smartphones, and digital cameras**.



LMO LITHIUM MANGANESE OXIDE



LTO LITHIUM TITANIUM OXIDE

